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11th KEPAN CONGRESS ABSTRACTS

Selected Abstracts for Oral Presentation Awards

SA-OP-01

Chewing Function, Sarcopenia, and Malnutrition in Elderly Patients

Cemile Özsürekci[1], Evrim Güngör[2], Hatice Çalışkan[1], Gözde Şengül Ayçiçek[1], Meltem Gülhan Halil[1]
[1]Department of Internal Medicine, Division of Geriatrics, Hacettepe University School of Medicine, Ankara, Turkey
[2]Department of Nutrition and Dietetics, Lefke European University, Medical Science Faculty, Lefke, Cyprus

Objective: Sarcopenia and malnutrition are geriatric syndromes that increase mortality and morbidity in elderly patients. Oral and dental health, chewing, and oral phase problems also lead to eating disorders and malnutrition in the elderly. The aim of our study was to evaluate the correlation of teeth number, chewing function, sarcopenia, and other parameters that may be related to malnutrition in the elderly.

Methods: The patients were asked to chew a pre-designed color changeable chewing gum for a minute to evaluate the function of chewing muscles. The color of the gum was scaled from 1 to 5 (lighter to darker), and the darkest color showed the best functionality. Insufficient chewing ability was assigned as 1–2 color of chewing gum, and sufficient chewing ability was assigned as 3–5 color. Sarcopenia was diagnosed according to the revised version of the European Working Group on Sarcopenia in Older People 2 criterion. Skeletal muscle index was assessed by Body-Stat bioimpedance analysis, handgrip strength was assessed by Takei hand dynamometer, and 4-meter walking speed was assessed. Masseter and gastrocnemius muscle thicknesses were measured by ultrasound.

Results: Totally 75 elderly patients included in our study. 61.3% of the patients were female and mean age was 76±5 years. Presarcopenia prevalence was 62.7%, sarcopenia was 1.3% and severe sarcopenia was 10.7% in the whole group. Poor chewing function group was 25.3%. There were a significant difference on age, handgrip strenght, skletal muscle index, masseter muscle thicknesses between poor chewing funtion group and normal patients. Also,we found that age and chewing function had negative correlation, while mini nutritional assessment short form, gastrokinemus and masseter muscle thicknesses, skeletal muscle index, handgrip strenght and 4 meter walking speed had positive correlation.

Conclusion: Aging had a significant effect on poor chewing function, whereas the number of teeth was similar. Moreover, sarcopenia parameters and malnutrition risk were significant correlates of chewing function and masseter thickness. We should evaluate and treat elderly patients for these to prevent a vicious cycle between sarcopenia and chewing function.

SA-OP-02

Effects of Food and Gastrointestinal Secretions on Intestinal Integrity in an Experimental Rat Model

Ömer Cennet[1], Akbar Hajiyev[3], Cenk Sökmensüer[3], Filiz Akbıyık[5], Burçin Şener[4], Osman Abbasoğlu[2]
[1]Clinic of External Diseases 2, Vakfıkebir State Hospital, Trabzon, Turkey
[2]Department of General Surgery, Hacettepe University School of Medicine, Ankara, Turkey
[3]Department of Medical Pathology, Hacettepe University School of Medicine, Ankara, Turkey
[4]Department of Medical Microbiology, Hacettepe University School of Medicine, Ankara, Turkey
[5]Department of Medical Biochemistry, Hacettepe University School of Medicine, Ankara, Turkey

Objective: Paracellular intestinal permeability is mediated by mainly tight junction (TJ) proteins. Deterioration of TJ proteins and morphological structure of intestinal epithelium may permit translocation of bacterial end-products (lipopolysaccharides, LPS) into the serum. Impaired gut barrier function is related to several disease states. Intestinal epithelium and tight junction proteins are regulated by many factors. The aim of the present study was to investigate the effect of biliopancreatic (BP) secretions and foods on intestinal morphology and microbial flora of rat intestine.

Methods: Thirty Sprague-Dawley male rats were randomly divided into three groups (10 per groups): control, BP, and jejunal bypass groups. By these operations, BP juice-deficient (bile (−)), food deficient (food (−)), and both of them deficient (bile (−)/food (−)) jejunal segments and corresponding control intestinal segments were obtained. Animals were sacrificed at the end of week 3. We obtained blood from portal vein for LPS and citrulline levels. Each jejunal segment sample was cultured quantitatively (log 10 (cfu/mg)). We observed the changes in the intestinal morphology (villus/crypt ratio and intraepithelial lymphocytes) and expression and distribution of TJ proteins (occludin, claudin-1, and zonula occludens-3) by using immunohistochemistry.

Results: Villus height-to-crypt depth ratio was lower in bile-and food-deficient segments than in others (p=0.007). Intraepithelial lymphocytes were significantly highest in bile-and food-deficient segments (p=<0.001). Immunohistochemical staining pattern of claudin-1 was weaker when there was no food (p=0.035). Occludin expression increased if the segment contained food (0.016). Jejunal aerobic bacterial count was lower in bile-and food-deficient segments (log 10 (CFU/mg): −1.32±0.61) and higher in bile-deficient segment (log 10 (CFU/mg): 0.1±1.08) than in control segment (log 10 (CFU/mg): −0.3±0.6) (p=0.043). There was no statistically significant difference in plasma lipopolysaccharide and citrulline levels between the groups.

Conclusion: In our study, the presence or absence of bile and pancreatic secretions altered the expression pattern of jejunum morphology, the number of intraepithelial lymphocytes, and the expression of some TJ proteins (occludin and claudin-1). These effects were more prominent in the presence or absence of food. The microbiological environment was also affected by these changes. Our results implicate the importance of oral food on the structure and integrity of the gastrointestinal tract secretions that may play a role on some diseases.

Keywords: Tight junction, claudin, occludin, zonula occludes, intestinal integrity, rat, immunohistochemistry, lipopolysaccharides, citrulline

SA-OP-03

Dysphagia Among the Community Dwelling Elderly People: How Often? How We Aware?

Gülistan Bahat, Özlem Yılmaz, Şükran Durmazoğlu, Cihan Kılıç, Mehmet Akif Karan
Department of Internal Medicine Division of Geriatrics, İstanbul University İstanbul School of Medicine, İstanbul, Turkey

Objective: Dysphagia is described a geriatric syndrome that occurs more frequently with aging. This clinical problem is associated with deterioration in functionality, malnutrition, infections, and increase in mortality and is usually ignored. The prevalence of dysphagia among elderly in many different populations has been reported to be between 13.8% and 23.4%. In our country, a study investigating the incidence of dysphagia has not been reported. The aim of the present study was to screen the prevalence of dysphagia among elderly living in the community in our country.

Methods: The study included patients admitted to our clinic between July 2015 and March 2016. The patients' ages were between 60 and 98 years old, and they were prospectively and consecutively included in the study. Dysphagia screening was done by scanning the EAT-10 questionnaire. Two separate thresholds for EAT-10 score of dysphagia (3 or 15) were used. The patients' age, gender, total disease, and total number of drugs were noted. Dysphagia awareness was investigated in patients with detected dysphagia. For this purpose, dysphagia complaints, the patients were asked if they would express dysphagia complaints when there is no screening questionnaire.

Results: The study included 959 elderly patients (272 male and 687 female). Mean age was 74.21±7.4 years. The total number of diseases, the total number of drugs, EAT-10 total score, and distribution by and gender. In the study population, EAT-10 threshold 3 and threshold 15 detected by positive dysphagia screening by prevalence and gender distribution are summarized. Patients with EAT-10 score ≥3 said symptoms without prompting symptoms of dysphagia with a percentage of 32.7%, whereas this percentage for patients with EAT-10 score >15 was 51.5. In EAT-10 questionnaire, the article which has the highest positivity and the highest score was the item questioning dysphagia with liquids that "I am making extra effort to swallow liquids". Factors independently associated with advanced age and EAT-10 score in linear regression analysis were established as advanced age (p=0.007), female gender (p<0.001), and high number of drugs (p<0.001).

Conclusion: In our study, screening the elderly outpatient prevalence of dysphagia, it was found with a significant incidence (64.8%) of dysphagia with threshold EAT-10 score ≥3; when it was 7.1 for thresholds EAT 10 >15. Dysphagia in the elderly living in the community is a common problem in our country. Close to half of the patients with significant dysphagia does not express dysphagia without query. Female sex and drugs excess number are risk factors for dysphagia. Our results suggest the need for performing dysphagia screening in the elderly.

SA-OP-04

The Relationship Between NRS-2002 and mNUTRIC Scores and Mortality in Intensive Care Patients

Arzu Yıldırım Ar, Pelin Bal Kese, Sevgi Alagöz, Güldem Turan
Department of Intensive Care/Anesthesiology and Reanimation, Health Sciences University, İstanbul, Turkey

Objective: Reasons, such as associated diseases, age, and nutritional status, may affect mortality in intensive care patients. Various scores are used to evaluate nutrition in intensive care. Interleukin (IL)-6, age, APACHE II, Sequential Organ Failure Assessment score, number of comorbid diseases, and time from hospitalization to admission to the intensive care unit (ICU) are used in Nutrition Risk in Critically Ill (NUTRIC) score. A high score (6-10) indicates high malnutrition, and low score (0-5) indicates low malnutrition. Since it is not always possible to follow-up IL-6, modified NUTRIC (mNUTRIC score) score that does not include IL-6 could be used. In this score, 5-9 indicates high malnutrition risk, and 0-4 indicates low malnutrition risk. In Nutritional Risk Screening-2002 (NRS-2002) score, malnutrition and severity of disease are scored as mild, moderate, and severe, and the total score is 0-6. If the score is ≥3, it is stated that the patient is nutritionally at risk. We examined the relationship between mortality and mNUTRIC score of our patients on their first day at our clinic and NRS-2002 score.

Methods: Our study was conducted as an observational prospective study, with ethics committee approval. It included 50 patients whose intensive care hospitalization duration was >24 h between November 10, 2018 and January 10, 2019, with informed consent forms obtained from patient's relatives. The mNUTRIC and NRS-2002 scores of the patients were recorded on the first day of their hospitalization, and their correlation with mortality was checked. Additionally, mechanical ventilation day and intensive care hospitalization days are compared between low-risk patients and high-risk patients. IBM SPSS 22 program was used for statistical analysis.

Results: The analysis of NRS-2002 and mNUTRIC with regard to mortality, and no significant difference was found. In NRS-2002, the high-risk group mechanical ventilation day is significantly higher than the low-risk group (p=0.048).

Conclusion: Since the follow-up of IL-6 is cost increasing and time-consuming, we used mNUTRIC scores. No difference was

found between NRS-2002 and mNUTRIC scores with regard to mortality correlation. Both scores could be suggested to use in the general intensive care patients group as daily practices according to the preference of the clinical team.

Keywords: NRS-2002, mNUTRIC, mortality, intensive care

SA-OP-05

Evaluating the Impact of the Nutritional Support Team on Product use and Cost

Zeynep Parlak Özer, Aslı Gün Yıldırım
Gaziantep 25 December State Hospital, Gaziantep, Turkey

Objective: The nutrition support team (NST), in addition to deciding the appropriate nutrition method and appropriate product for patients and planning the dose of the product, monitors the inventory of enteral and parenteral products and determines the quantity of products to be purchased. The aim of the present study was to compare the amount and hospital cost data of enteral (EN) and parenteral nutrition (PN) products used between 2 years prior to the establishment of the NST and 2 years during the team worked actively.

Methods: In the study, differences of EN and PN products use quality and costs were evaluated by both 25 Aralık State Hospital surgical intensive care unit (SICU) and neurological intensive care unit (NICU) between January 1, 2015 and December 31, 2016 before NST was established and between January 1, 2017 and December 31, 2018 after NST was established and have worked actively. EN products included in the study were ready-to-use dietary solutions, amino acid and carbohydrate supplements, PN products, triple blend bags, oil- and water-soluble vitamins, and trace elements. Data were obtained retrospectively from the hospital pharmacy automation module. Costs were calculated by both purchase price of products and considering the increase in annual inflation rates of products' purchase prices and compared statistically between before NST and during working actively.

Results: While the number of EN products used in the SICU did not change before and after the NST (p=0.191), the use of EN products increased in the NICU (p<0.000). The use of PN products after the NST decreased in both ICUs (p=0.012 and p=0.025, respectively). When the cost analysis was made by taking into account the effect of inflation on EN product cost, there was no difference between NST and years of active work in the SCIU (p=0.323); when inflation is considered, PN expenses are decreased (p=0.009). When cost analysis is performed by taking into account the effect of inflation on cost, there are an increase in the cost of EN (p<0.000) and a decrease PN (p=0.003) between before NST and during work actively in the NICU. While there was no difference between before NST and active years in total EN–PN expenses of the SCIU and the NICU, the impact of inflation on cost was decreased (p=0.001).

Conclusion: The use of EN and PN products at the hospital, with the approval of the NST through the automation system, ensures effective and consistent use and contributes to the cost positively.

SA-OP-06

The Effects of Different Bread Types on Blood Glucose

Nevin Şanlıer, Şule Kocabaş, Hande Gül Ulusoy
Department of Nutrition and Dietetics, Lokman Hekim University, Ankara, Turkey

Objective: Grain and grain products in Turkey take first place in the overall food consumption. An average of 44% of daily energy is provided only from bread, and 58% from bread and other grain products. The average bread consumption is 250 g/day for adult men and 150 g/day for women. To understand the effects of different bread types and resistant starches that are produced in our country on the blood glucose and satiety index and to contribute to the determination of the recommendations and precautions to be taken to protect and improve public health.

Methods: A total of 90 (30 men and 60 women) healthy volunteers aged 20-50 years who accepted to participate in the study were selected. The individuals were asked to consume 75 g each of three different types of breads (white flour, whole wheat flour, and resistant starch flour) with 200 mL water after 12 h of fasting. The given bread was consumed in 15 min, and blood glucose levels were measured by an AccuCheck Performa Nano glucometer at 0, 60, 90, and 120 min.

Results: A significant difference was found between the mean measurements of blood glucose after 60, 90, and 120 min within the bread was fed in 15 min together with 200 mL water (p=0.021, p=0.002, and p=0.017, respectively).

Conclusion: The last measurement of 120 min blood glucose measurements difference between breads decreased from white bread and whole wheat bread to resistant starch bread, and difference between blood glucose measurements among breads was found to be statistically significant.

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11th KEPAN CONGRESS ABSTRACTS

Oral Presentations

OP-01

The Relationship Between Osteosarcopenia and Frailty in Geriatric Obese Patients

Olgun Deniz, Pelin Ünsal, Yelda Öztürk, Meltem Halil
Department of Internal Medicine, Division of Geriatrics, Hacettepe University School of Medicine, Ankara, Turkey

Objective: Sarcopenic obesity is defined as excess body weight and reduced muscle mass or strength. The presence of osteoporosis with this syndrome is osteosarcopenic obesity. The definition of osteosarcopenic obesity is in debate, and limited data are presented in the literature. Its association between frailty and osteosarcopenic obesity is not well described before. The aim of the present study was to show the association between frailty and osteosarcopenic obesity in elderly patients.

Methods: Patients who were admitted to the Geriatrics Outpatient Clinic within the last 6 months were evaluated. Overall, 59 obese elderly patients whose frailty and osteoporosis status were known were included in the study. All patients underwent comprehensive geriatric assessment. The diagnosis of sarcopenic obesity was based on functional sarcopenic obesity definition that consists of both low grip strength (male <27 kg and female <16 kg) and high body mass index (≥30 kg/m^2). Osteoporosis status was defined by dual energy X-ray absorptiometry. Osteosarcopenic obesity syndrome was identified as a condition encompassing osteoporosis, sarcopenia, and obesity. Frailty status of the patients was evaluated by Fried Frailty Scale that contains five parameters (weight loss, exhaustion, walking speed, handgrip strength, and physical activity).

Results: The median age of the 59 obese patients (5 osteosarcopenic (OS), 13 sarcopenic (S), 8 non-sarcopenic osteoporotic (NS-O), and 33 non-sarcopenic non-osteoporotic (NS-NO)) were 75 (min–max: 65–85) years, and 47 (80%) patients were female. Age, gender, and comorbidities, such as hypertension, diabetes, coronary artery disease, and dementia, were similar between the NS-NO obese group versus the OS, S, and NS-O obese groups. In the NS-NO obese group, chronic obstructive pulmonary disease was found to be less than in the other three groups (p=0.002). Fried Frailty Scale scores were higher in the OS obese patient group than in the other groups (p=0.004).

Conclusion: In the present study, we have found that Fried Frailty Scale scores were higher in the OS obese group. Osteosarcopenia may be a risk factor for frailty in elderly obese patients. Large prospective studies are needed to evaluate its relationship with frailty.

OP-02

The Effect of Enteral Nutrition Education Given to Intensive Care Nurses on Knowledge Levels

Hilal Kurt[1], Özlem Ceyhan[2]
[1]Department Clinical Nutrition, Kayseri State Hospital, Kayseri, Turkey
[2]Department of Internal Medicine Nursing, Erciyes University, Faculty of Health Sciences, Kayseri, Turkey

Objective: In intensive care units, enteral nutrition and nursing care practices are frequently performed. Therefore, it is important that nurses have sufficient knowledge, skills, and training in this subject. The aim of the present study was to determine the effect of enteral nutrition education given to intensive care nurses on knowledge levels.

Methods: The present study was conducted in adult intensive care units of the Training and Research Hospital. It was administered to 100 nurses who accepted the study. The study was conducted experimentally as pre-test and post-test. The questionnaire includes sociodemographic characteristics of nurses, questions about enteral nutrition, and nursing care. Trainings are given in groups of 15-20. In education, video demonstration and interactive presentation techniques were used with PowerPoint presentation. During the training and at the end of the training, the training material prepared by the researcher was given to the participants. Thirty days after the training, the participants were given a final test.

In the evaluation of data, normal distribution histogram, q-q graphs, and Shapiro-Wilk test, McNemar test, dependent two sample t-test, and one-way variance analysis were applied.

Results: It was found that the mean scores of the nurses were 42.04±22.55 before the training and 80.12±12.51 after the training, and this difference was statistically significant (p<0.001). In addition, the mean score of post-training knowledge increased in all groups. Thus, the difference between the groups in all variables has been eliminated. This result indicates the effectiveness of the training given and shows that intensive care nurses have increased their knowledge of enteral nutrition and made their education level similar.

Conclusion: Based on these results, it is recommended that nurses should be developed with in-service training programs on enteral nutrition and nursing care and to keep their information updated by periodically repeating the trainings.

OP-03

Investigation of the Knowledge, Awareness, and Approaches of Family Physicians Working in Ankara About Malnutrition in Elderly People

Mustafa Kutluhan Yurdakonar[1], Gözde Şengül Ayçiçek[2], Duygu Ayhan Başer[1], Meltem Gülhan Halil[2]
[1]Department of Family Medicine, Hacettepe University School of Medicine, Ankara, Turkey
[2]Department of Internal Medicine, Division of Geriatrics, Hacettepe University School of Medicine, Ankara, Turkey

Objective: Malnutrition is a common problem in older adults and more complicated in younger patients. It is not routinely evaluated in family medicine practice, and it might be at worse status when diagnosed. The aim of the present study was to evaluate the knowledge, awareness, and attitude of family physicians about malnutrition in older adults and to decrease the morbidity and mortality by recognizing the malnutrition earlier.

Methods: Family physicians working in family health centers affiliated to the City Health Directorate of Ankara were included in the study, regardless of gender and age. This was a descriptive research; therefore, there was no sample calculation. The questionnaire forms were distributed by hand to all family physicians who could be reached between December 2018 and February 2019.

Results: In the present study, we reached 240 physicians. Those who did not respond to >10% of the questions were excluded from the study, and 226 physicians were included in the study. Of the 226 physicians, 15% were specialists. The mean age of the family physicians was 21.79±8.57 (min: 1 and max: 36) years. Of the total population of people who are >65 years and living in Ankara, 18.5% (n=63,513) were registered to family physicians who participated in the study. It was determined that 32.4% of the specialists and 42.2% of the practitioners routinely evaluated malnutrition in the population >65 years old. During the evaluation of malnutrition, weight loss (84.1%) was the most questioned symptom, and fatigue (67.3%) was the second. It was found that 94.2% of the physicians did not use any screening test for malnutrition status, and that 75.2% used weight loss as an anthropometric measurement method. When malnutrition is detected, 69% of the family physicians refer their patients to hospitals, and 39.4% recommend a kind of diet. It was observed that only 17.7% of the physicians evaluated the status of sarcopenia, and the middle upper middle arm circumference measurement was the most used parameter (60%). It was observed that 10.2% (n=23) of the physicians had nursing home patients in their registered population. However, the rate of evaluation of malnutrition and sarcopenia status between family physicians with and without having nursing home patients was not different (p>0.05).

Conclusion: Awareness of family physicians about malnutrition in elderly people was not sufficient. Owing to being a common and more complicated health problem in patients >65 years old, educational studies can be thought to increase the awareness and knowledge level of family physicians about malnutrition in elderly people and would result in better public health.

OP-04

Electrolyte Disorders in Patients Receiving Nutritional Support and its Relationship with Hospital Outcomes

Burhan Sami Kalın[1], Kamil İnci[1], Eda Macit Aydın[2], Havva Nur Karaaslan[2], Şahender Gülbin Aygencel Bıkmaz[1], Lale Karabıyık[2], Bijen Nazlıel[3], Hülya Altun[4], Hacer Demir[4], Ezime Toruk[4], Sema Ünal[4], Melda Aybar Türkoğlu[1]
[1]Department of Internal Diseases, Central Nutrition Unit, Gazi University School of Medicine, Ankara, Turkey
[2]Department of Anesthesiology and Reanimation, Central Nutrition Unit, Gazi University School of Medicine, Ankara, Turkey
[3]Department of Neurology, Central Nutrition Unit, Gazi University School of Medicine, Ankara, Turkey
[4]Central Nutrition Unit, Gazi University School of Medicine, Ankara, Turkey

Objective: Electrolyte and mineral deficiencies are important problems in hospitalized patients. That is more common in patients who are malnourished or receiving enteral and/or parenteral nutrition. The malnutrition itself, the type and the dose of nutrition, and refeeding syndrome cause various electrolyte and mineral disorders. Detection of electrolyte disorders in patients consulted to the nutrition team of a tertiary university hospital and evaluation of the relationship between the electrolyte disorders and nutrition support and hospital outcomes.

Methods: Patients who were hospitalized at Gazi University Hospital and consulted to the nutrition team of the hospital between June 2014 and December 2018 were included in the study. The demographic and nutritional data that were noted prospectively were evaluated retrospectively. The presence of hypophosphatemia, hypernatremia, and hyponatremia from electrolyte/mineral disorders was investigated. Patients were divided into groups according to electrolyte/mineral disorders and survival.

Results: A total of 1916 patients were included in the study. The median age of the patients was 64 (53–75) years, and 796 (41.5%) patients were female. The mortality rate was 469 (24%). Of the patients, 1184 (61%) received only parenteral, 462 (24%) received enteral plus parenteral, 256 (14%) received only enteral, and 14 (1%) received oral enteral supplements. Patients who consulted to the nutrition team were from the intensive care units (ICUs) at the highest rate (40%). Six hundred one (31%) patients had hypertension (HT), and 422 (22%) had diabetes mellitus. Malnutrition rate in the study population was 82% according to the NRS 2002 score. It was statistically higher in patients who died (p<0.05). Hyponatremia was more frequent in internal medicine units, and hypernatremia was more frequent in ICUs (p<0.05 for both), but no difference was found in hypophosphatemia (p>0.05). The presence of chronic renal failure and cerebrovascular disease and hospitalization in internal medicine units were independent risk factors for hyponatremia; the age, weight gain, HT, and ICU stay were independent risk factors for hypernatremia (p<0.05 for all). Hyponatremia and hypernatremia were found to be high in non-survivors (p<0.05 for all), and there was no difference between the groups in hypophosphatemia (p>0.05).

According to NRS 2002, the presence of malnutrition and hospitalization in surgical units were independent risk factors for mortality ($p<0.05$ for all).

Conclusion: It should be kept in mind that sodium imbalance during the follow-up period and malnutrition status before the hospitalization are important clinical parameters with regard to predicting death/survival.

OP-05

The Evaluation of the Care Practices of the Mothers of Children with Gastrostomy Tube

Hatice Pars
Department of Pediatrics Nursing, Hacettepe University Faculty of Nursing, Ankara, Turkey

Objective: Although gastrostomy insertion is a preferred procedure in children as a safe procedure, complications are reported at different frequencies. This may result from insufficient knowledge and wrong practices of families about home care. The aim of the present study was to evaluate the care practices of the mothers of children fed by a gastrostomy tube.

Methods: The study sample is composed of the mothers of 30 children aged 0–18 years who were followed up in the pediatric gastroenterology outpatient clinic of a university hospital in Ankara, Turkey. Data were collected with a questionnaire form that was prepared by the researcher and included questions to evaluate families' knowledge about care.

Results: 40% of the children were fed by a gastrostomy tube due to neurological diseases, such as cerebral palsy and epilepsy. Gastrostomy was performed using the endoscopic method in 54% of the samples, the surgical method in 34% of the samples, and the radiological method in 12% of the samples. 60% of the samples were fed by a gastrostomy tube through the injector method. It was found that four mothers in the study fed their child by a gastrostomy tube in a supine position. It was further revealed that 70% of the mothers gave medication with formula, and that they gave more than one drug from the gastrostomy tube at the same time. None of the mothers controlled the gastric residual volume. It was found that 67% of the mothers cleaned the stoma site with povidone iodine, and 20% used pomade regularly without doctors' advice. The complications observed in the children were rash (n=12), rash and discharge in the stoma site (n=3), vomiting (n=10), diarrhea (n=8), constipation (n=6), tube blockage (n=5), hypergranulation tissue (n=5), and opening of stitches at the entrance of the tube (n=2).

Conclusion: The study revealed that while mothers are providing care to their child via a gastrostomy tube, they had wrong and incomplete practices about stoma care and about giving formula and drug via a gastrostomy tube. Thus, it is recommended to give families a comprehensive training along with a training brochure during discharge from the hospital and to demonstrate the practice of stoma care and drug applications. It is also important to visit families at home to observe their home care practices and to repeat the trainings if necessary.

OP-06

The Use of Ultrasound in the Evaluation of Muscle Mass in Patients with Systemic Sclerosis

Alper Sarı[1], Mert Eşme[2], Gözde Şengül Ayçiçek[2], Meltem Gülhan Halil[2], Ali Akdoğan[1]
[1]Department of Internal Medicine, Rheumatology Unit, Hacettepe University School of Medicine, Ankara, Turkey
[2]Department of Internal Medicine, Division of Geriatrics, Hacettepe University School of Medicine, Ankara, Turkey

Objective: Patients with systemic sclerosis (SSc) are at risk for decreased muscle mass due to impaired nutritional status and decreased physical activity and musculoskeletal involvement. The role of ultrasonography (USG), which is increasingly used in rheumatology practice, in evaluating muscle mass in this patient group is unknown. Evaluation of the usability of USG in the evaluation of muscle mass in SSc.

Methods: Patients with SSc who were admitted to the rheumatology outpatient clinic between October 2018 and December 2018 were included in the study. Appendicular skeletal muscle mass indices of patients were calculated using bioelectrical impedance formula as described by Kyle et al. (1) It was defined as decreased muscle mass for men and women of <7.26 kg/m^2 and 5.50 kg/m^2, respectively. The severity of gastrointestinal involvement was assessed by the UCLA GO 2.0 scale, and the physical activity status by the International Physical Activity Index. The presence of malnutrition was determined according to the European Society for Clinical Nutrition and Metabolism criteria. ASMI correlation and gastrocnemius, rectus femoris, rectus abdominis, external oblique, internal oblique, and transverse abdominis muscle thickness as evaluated by USG were evaluated by Pearson analysis. Sensitivity, specificity, and predictive values of muscle thickness in predicting decreased muscle mass were determined by receiver operating characteristic analysis.

Results: Decreased muscle mass was detected in 13 (13.9%) of 93 patients (F/M: 86/7) included in the study. Demographic and clinical features. In the group with decreased muscle mass, diffuse disease, flexion contracture in the hands, digital ulcer history, and malnutrition were more frequent. Patients with decreased muscle mass had lower gastrocnemius, rectus abdominis, and internal oblique muscle thickness. Muscle gastrocnemius was found to have the highest correlation with ASMI ($r=0.513$, $p<0.001$). The cut-off value of 1.47 cm for thickness of gastrocnemius had 92.3% sensitivity, 58.7% specificity, and 97.9% negative predictive value in predicting decreased muscle mass (area under curve: 0.846).

Conclusion: Measurement of gastrocnemius thickness by USG can be used as screening test because of its high sensitivity and negative predictive value for detecting decreased muscle mass in patients with SSc.

Keywords: Systemic sclerosis, muscle mass, ultrasonography

Reference

1. Kyle UG et al. "Validation of a bioelectrical impedance analysis equation to predict appendicular skeletal muscle mass (ASMM)"; Clin Nutr 2003; 22: 537–43.

OP-07

Cultural Adaptation and Validation of SARC-F in World Languages: An EUGMS Sarcopenia Special Interest Group Study

Gülistan Bahat[1], Özlem Yılmaz[1], Meryem Merve Ören[2], Pınar Küçükdağlı[1], Mehmet Akif Karan[1], Charlotte Beaudart[3], Jean Yves Reginster[3], Olivier Bruyere[4]
[1]Department of Internal Diseases, Division of Geriatric, İstanbul University İstanbul School of Medicine, İstanbul, Turkey
[2]Department of Public Health, İstanbul University İstanbul School of Medicine, İstanbul, Turkey
[3]Liège University, Epidemiology of Public Health and Health Economics, Liege, Belgium
[4]Liège University, Epidemiology and Geriatric Rehabilitation Section, Liege, Belgium

Objective: SARC-F is one of the best tools for evaluating sarcopenia in daily practice. It was created in English. The adaptation and validation of SARC-F in different languages are important because of the large number of different languages worldwide. For this purpose, the EUGMS Sarcopenia Special Interest Group has formed a working group. The working group is coordinated by Turkish and Belgian teams. The aim of the present study was to present the results of SARC-F's cultural adaptation in different world languages and validation study and Turkish SARC-F validation result. We aimed to assess the reliability and validity of the Turkish version of SARC-F with regard to screening with current definitions of sarcopenia, muscle mass, and functional measures in the Turkish SARC-F validation.

Methods: EUGMS Sarcopenia by the Special Interest Group was the coordinator of the working group that was formed in Turkey and Belgium teams. After the two teams worked separately to determine the appropriate methodology, they worked through teleconferences and e-mail to develop the methodology in which common consensus was achieved. Thereafter, EUGMS-Sarkopeni SIG and EAMA members were contacted by e-mail to invite academicians to work to include different European languages. Cross-sectional study. Community-dwelling older adults aged ≥65 years admitted to a geriatric outpatient clinic. Muscle mass (bioimpedance analysis), hand grip strength, usual gait speed, chair sit-to-stand test, functional reach test, short physical performance battery (SPPB), SARC-F questionnaire, and FRAIL questionnaire were used. Sarcopenia was evaluated by four current different definitions: European Working Group on Sarcopenia in Older People (EWGSOP), Foundation for the National Institutes of Health (FNIH), International Working Group on Sarcopenia (IWGS), and Society on Sarcopenia, Cachexia and Wasting Disorders (SCWD).

Results: The study started in August 2016 and included 17 different languages-Turkish, French, Polish, Dutch, Spanish, Catalan, Italian, Czech, Hebrew, German, Norwegian, Portuguese, Persian, Greek, Serbian, Lithuanian, Brazilian. After cross-cultural adaptation, 207 subjects were analyzed in the clinical validation study. The mean age of the patients was 74.6±6.7 years, and 67.6% were women. Against EWGSOP, FNIH, IWGS, and SCWD definitions of sarcopenia, the sensitivity of SARC-F was 25%, 31.6%, 50%, and 40%; specificity was 81.4%, 82.4%, 81.8%, and 81.7%, respectively. Positive predictive values were between 5.1% and 15.4%, and negative predictive values were 92.3%-98.2%. Against parameters of low muscle mass, the sensitivity was approximately 20%, and the specificity was approximately 81%. Against parameters of function, for low hand grip strength, the sensitivity of SARC-F was 33.7% (Turkish cut-off) and 50% (FNIH cut-off); the specificity was 93.7% (Turkish cut-off) and 85.8% (FNIH cut-off). Against low UGS, poor performance in chair sit-to-stand test, functional reach test, SPPB, and presence of positive frailty screening, the sensitivity was 58.3%, 39.2%, 59.1%, 55.2%, and 52.1%, whereas the specificity was 97.3%, 97.8%, 88.1%, 99.3%, and 91.2%, respectively.

Conclusion: SARC-F validation is provided in 17 different world languages. The psychometric performance of Turkish SARC-F was similar to the original SARC-F. It revealed low sensitivity but high specificity with all sarcopenia definitions. Sensitivity and specificity were higher for muscle function tests, reflecting its inquiry and input on functional measures. Our findings suggest that SARC-F is an excellent test to exclude muscle function impairment and sarcopenia. SARC-F is a relatively good screening test for functional measures.

OP-08

Determination of the Association Between Breast Cancer Risk and Dietary Phytochemical Index and Inflammatory Index

Alev Erkan, Serap Yücel
Acıbadem Mehmet Ali Aydınlar University Atakent Hospital, İstanbul, Turkey

Objective: Breast cancer is the most common type of cancer in women. Approximately one-third of the most common cancer types are estimated to be preventable through appropriate feeding behavior. The aim of the present study was to determine the relationship between the phytochemical index (PI) and inflammatory index (DII) of the diet with the risk of breast cancer and to assess the nutritional status of patients with breast cancer.

Methods: The present study was conducted on 80 postmenopausal women diagnosed with breast cancer and 50 postmenopausal women without any history of malignancy who applied to the Acibadem Atakent Hospital in the last year. An improved questionnaire prepared on the topics of individuals' general features, lifestyle and nutrition habits, and food consumption frequencies was developed by using face-to-face interview method. PI was calculated in two ways based on grams (g.c.) and calorie-based (kcal.c.). PI and DII were analyzed by grouping according to quartiles. TURCOSA statistical software (Turcosa Analytics Ltd. Co., Turkey; www.turcosa.com.tr) was used for analysis.

Results: The mean ages of the patients were 59.1±9.36 years for the control group and 51.15±11.98 years for the case group. The frequency of cooking with healthy methods in the control group is higher than those in the case group (p=0.046). FI (g.c.) was ranged ≤42.6 for Q1, 42.6–49.7 for Q2, 49.7–57.9 for Q3, and ≥57.9 for Q4. No difference was found between the groups with regard to PI (g.c.) and PI (kcal.c) means (p=0.654

and p=542, respectively). As PI (g.c.) and PI (kcal.c.) increase, the amount of calories from refined carbohydrates decreased between the quartiles. DII was ranged ≤−1.779 for Q1, −1.779 to −1.089 for Q2, −1.089 to −0.020 for Q3, and ≥−0.020 for Q4. No significant difference was found between the groups for DII means (p=0.594). A negative, weak and statistically significant relationship was found between PI (g.c.) and PI (kcal.c) and DII (p=0.001 and p=0.002, respectively). In the present study, the hypothesis did not support that the risk of breast cancer increases as the PI of the diet increases, or that the risk of breast cancer increases with increasing DII.

Conclusion: In our country, there is a need for studies to investigate the association between breast cancer risk and nutrition and the questionnaires and tools that have validity and reliability for determining nutritional status.

Keywords: Breast cancer, phytochemical, phytochemical index, inflammatory index, breast cancer and nutrition

OP-09

Effectiveness of Nutritional Risk Score (NRS-2002), Biomarkers, and Scorings Determining Disease Severity in Predicting Mortality in the Elderly Patients Admitted to Intensive Care Unit

Mehmet Yavuz, Çiler Zincircioğlu, Işıl Köse Güldoğan, Nimet Şenoğlu, Murat Güneş, Adem Şahin
Intensive Care Unit, Tepecik Training and Research Hospital, İzmir, Turkey

Objective: Scoring systems that provide the prediction of prognosis for admission to intensive care have contradictory sensitivity and selectivity in geriatric patients. The effect of malnutrition and inflammation on mortality is known. The Nutritional Risk Score (NRS-2002) determines the risk of malnutrition in admission to the intensive care unit. In these patients, acute phase reactants, which are inflammation markers, are routinely monitored. In this study, we aimed to investigate the efficacy of NRS-2002, Albumin and CRP APACHEII, and SAPS scores in predicting intensive care outcomes and mortality in the patients aged over 65 years who were admitted to the intensive care unit.

Methods: The records of the patients over 65 years of age, who were admitted to the intensive care unit between June and December 2018, were retrospectively reviewed. Their demographic data, SAPS and APACHE II scores, NRS-2002, albumin, and CRP values were recorded. Their mortality status and total length of stay in the intensive care unit and discharge status were recorded. SPSS 20.0 was used for statistical analysis.

Results: In terms of mortality, age, gender, and comorbid diseases were not statistically different. Mortality rates demonstrated a significant difference among the different reasons for hospitalization. While mortality was found to be lower in the patients hospitalized for postoperative reasons, it was observed to be higher in those hospitalized because of cardiac and metabolic reasons. In all of APACHE 2, SAPS, NRS-2002 scores, and albumin and CRP levels, there was a significant difference in terms of mortality. In the binary logistic regression analysis performed for determining the risk of mortality, APACHE, SAPS2, NRS-2002, CRP, and age were found to be risk factors for mortality.

Conclusion: The mortality rates of elderly patients followed up in ICU are quite high. Like our study, there are studies examining many factors that determine the mortality risks of elderly patients.

Similar to our study, in the study conducted by Nouvenne et al., the CRP levels were found to be associated with mortality independently of comorbidity. There are contradictory literature on the use of disease severity scorings for the prediction of mortality in the general elderly population. According to our study, a significant relationship was found between disease severity scorings and mortality. In our study, NRS-2002 score was detected to be correlated with mortality rates in accordance with the literature. In the light of the results obtained in our study, we suggest that NRS-2002 score and CRP levels can be used as valuable tools for predicting mortality in the elderly population, but they should be considered together with other prognostic factors.

Keywords: APACHE 2, mortality, NRS-2002 Score, SAPS

OP-10

The Assessment of the Nutritional Awareness and Basic Knowledge Levels of Physicians Working in the Surgery Clinic

Noyan Kafaoğlu, Melih Akıncı, Kerim Bora Yılmaz, İ. Oskay Kaya, Zafer Ergül
Department of Surgery, Health Sciences University, Ankara Dışkapı Training and Research Hospital, Ankara, Turkey

Objective: Nutrition education becomes more important every day because of the awareness of health and gaining the importance of nutritional factors. Although medical schools have positive development over the years, deficiencies of nutritional education have been reported. For this reason, clinical nutritional awareness, personal competence perception, practice habits, and basic clinical information of physicians working in general surgery clinic, which we study by giving priority to education factors, have been researched. The aim of the present study was to investigate the nutritional attitudes and basic knowledge levels of physicians working in the surgery clinic and to develop positive clinical habits and educational factors.

Methods: In the present study, pre-evaluated and proven nutritional questionnaire and mini-test were applied to 37 doctors included in the study. Nutritional education, clinical nutritional awareness, personal nutritional competence, application, and nutritional patient education were questioned using this questionnaire. The questionnaire was followed by a multiple-choice mini-test to evaluate the basic nutritional clinical information. Statistical analysis of the data was performed using SPSS 16.0. The chi-square test was used to compare categorical data among the groups. The Kruskal-Wallis test was used to compare nonparametric data of clinical nutrition values among the groups. A p value <0.05 was accepted as statistically significant.

Results: Nineteen (51.4%) specialists and 18 (48.6%) residents were included in the study. It was seen that the participants approved nutritional awareness and importance factors highly. Nutrition parameters were practiced rarely, mediocrely, and frequently by 6 (16.2%), 25 (67.6%), and 6 (16.2%) doctors, respectively. Thirty-two (85.5%) general surgery doctors scored high and very high in the mini-test. The only factor that affected the administration of the nutrition parameters in clinical practice was found to be competence perception (p=0.04). Among specialists and residents, there was no statistically significant difference between nutritional education status, mini-test results, and knowledge results (p>0.05).

Conclusion: The participants are mainly aware of the nutrition term and its importance, but they believe that there is an insufficiency in clinical practice due to the feeling of inadequacy about this topic.

Keywords: Nutrition, general surgery, nutrition questionnaire, nutrition test, doctor nutrition awareness

OP-11

Small Intestine Bacterial Overgrowth in Chronic Gas, Diarrhea, and Diarrhea

Mustafa Atasoy
Doctor's Office, İstanbul, Turkey

Objective: Small intestine bacterial overgrowth (SIBO) has increasingly been a matter of research and discussion during the last decade. In this condition, an overgrowth of microorganisms in small bowel results in compromised micronutrient absorption through their toxins and inflammation. They also cause increased production of gas by fermenting complex carbohydrates. Formerly considered as limited to some "short bowel syndrome" cases, now SIBO is being increasingly reported in patients with chronic abdominal bloating, diarrhea, and/or constipation. To determine, in a retrospective manner, the rate of positive SIBO breath test results in patients with chronic postprandial bloating, diarrhea, and/or constipation and to find out the correlation of symptomatic improvement with conversion of test results, if any.

Methods: Only patients who were compliant with proposed therapy, who completed the second breath test, and who were available to follow-up for at least 6 months after the completion of treatment were included in the study. 32 patients fulfilled these criteria. Patients were given 10 g of lactulose, and breath samples were taken 9 times over a course of 2 or 3 h. Hydrogen (H_2), methane (CH_4), and carbon dioxide (CO_2) gases were measured in each sample using a Quintron BreathTracker SC equipment. Breath test was repeated 2 to 6 months following the completion of treatment. The correlation between symptomatic improvement and the change in test results was examined.

Results: In this 32 patient group, presenting complaints were postprandial bloating in 25 patients, chronic constipation in 13, chronic diarrhea in 9, a sense of incomplete evacuation in bowel movements in 4, and chronic alternating diarrhea/constipation in 3 patients. 26 (81%) of 32 pre-treatment tests were interpreted as hydrogen-and/or methane-positive, and these patients were included in the treatment protocol. In 22 (85%) of these 26 cases, improvement in repeat (follow-up) breath test results was clearly correlated with symptomatic improvement, whereas in 4 (15%), they were not.

Conclusion: SIBO breath testing is positive in the great majority of cases with chronic bloating, diarrhea, and/or constipation. Response to therapy shows clear correlation with improvement in test results following treatment.

OP-12

Two Important Syndromes in Elderly Patients: Sarcopenia and Malnutrition

Filiz Demirdağ[1], Esma Nur Kolbaşı[2], Gözde Balkaya[1], Kübra Yıldız[2], Sadiye Murat[3], Gülistan Bahat[4]
[1]Department of Internal Medicine, İstanbul Medeniyet University, Göztepe Training and Research Hospital, İstanbul, Turkey
[2]İstanbul Medeniyet University, Göztepe Training and Research Hospital, Faculty of Health Sciences, İstanbul, Turkey
[3]Department of Physical Therapy and Rehabilitation, İstanbul Medeniyet University, Göztepe Training and Research Hospital, İstanbul, Turkey
[4]Department of Internal Medicine, Division of Geriatrics, İstanbul University, İstanbul School of Medicine, İstanbul, Turkey

Objective: Sarcopenia and malnutrition are common geriatric syndromes, and they increase morbidity and mortality in patients. Therefore, early diagnosis and intervention of both syndromes play an important role in maintaining the functional capacity of the patients. The aim of the present study was to investigate the relationship between sarcopenia and malnutrition in patients in the outpatient geriatric clinic.

Methods: Ambulatory patients of the outpatient geriatric clinic were included in the study. In addition to the demographic data of the patients, anthropometric measurements and comorbidities were recorded. SARC-F test was used for screening sarcopenia risk. Patients with a SARC-F score of ≥4 were considered to be at risk for sarcopenia. Patients were evaluated according to EWGSOP 2018 sarcopenia diagnostic criteria. The walking speeds of the patients were assessed with a 6-meter walking test, and hand grip forces were measured by using Takei© Dynamometer. Bio-impedance analysis (BIA) was performed with TANITA© TBF 300. All patients were screened for malnutrition with short and long forms of the Mini Nutritional Assessment (MNA) test. According to the MNA, the range of 0-17 points was accepted as malnutrition, the range of 17-23.5 points was at risk, and the range of 24-30 was accepted as normal.

Results: A total number of 486 patients (mean age 74.08±6.48 years, 334 female) were included in the study. According to the EWGSOP criteria, 45.1% were possible sarcopenic, 19.3% were sarcopenic, and 2.7% were severe sarcopenia (22% patients with sarcopenia, in total), whereas 27.3% of the patients had a SARC-F score of ≥4. Malnutrition and malnutrition risk were found in 4.07% and 29.6% of the participants, respectively. When the patients with SARC-F score ≥4 and <4 were compared, a statistically significant difference was found between the groups with regard to MNA total scores (p<0.001). In addition, SARC-F total score was negatively correlated with MNA total score (r: −0.352, p<0.001).

Conclusion: As a result, sarcopenia risk score, which was screened by using SARC-F test, was correlated with malnutrition. Therefore, it can be concluded from the present study that patients who are found to be at risk for sarcopenia are needed to be screened for malnutrition or vice versa. Future studies including larger populations and physically dependent individuals are recommended to obtain more comprehensive results.

OP-13

The Effect of Enteral Nutritional Support Therapy on Mortality in Shock Patients Receiving Vasopressor

Gülay Tök[1], Arif Doğan Habiloğlu[2], Nihal Deniz Bulut Yüksel[3], Burcu Kelleci Çakır[4], Fatma Tamer[5], Serpil Öcal[3], Seda Banu Akıncı[6], Osman Abbasoğlu[7], Arzu Topeli[3]
[1]Ministry of Health, Çorum Chests Diseases Hospital, Çorum, Turkey
[2]Department of Infection Diseases, Health Sciences University, Dr. Abdurrahman Yurtaslan Ankara Oncology Training and Research Hospital, Ankara, Turkey
[3]Department of Intensive Care, Hacettepe University School of Medicine, Ankara, Turkey
[4]Department of Medical Pharmacy, Hacettepe University School of Medicine, Ankara, Turkey
[5]Nutrition Support Team, Hacettepe University, Ankara, Turkey
[6]Department of Anesthesiology and Reanimation, Hacettepe University School of Medicine, Ankara, Turkey
[7]Department of General Surgery, Hacettepe University School of Medicine, Ankara, Turkey

Objective: In shock patients, enteral nutrition (EN) support therapy should be initiated after hemodynamic stability has been achieved. There is no consensus about the start time of EN support. This study aimed to evaluate EN support therapy and to investigate the effect of EN support therapy on mortality in patients receiving vasopressor (VP) treatment.

Methods: Shock patients receiving VP treatment in Hacettepe University Medical Faculty, Department of Hospital Internal Medicine and Anesthesia Intensive Care units between January 1, 2018, and January 1, 2019, were retrospectively evaluated. After the diagnosis of shock was established, seven-day follow-ups were examined. Patients receiving VP treatment for more than seven days were defined as VP-dependent.

Results: Fifty-nine patients who were treated with VP for the diagnosis of shock and whose data were accessible were evaluated. In 17 (28.8%) patients, EN support therapy was started within the first 24 hours. For the first seven days, intensive care mortality rate was observed to be 79.7%. The comparison of patients receiving and not receiving EN. The SOFA values of patients who did not receive EN support were observed to be higher than those receiving EN support (p=0.001).

No effect of starting EN support therapy in the first 24 hours and the first 48 hours on mortality was observed (p=0.50 and p=0.80, respectively). While there was no significant difference between the two groups in terms of lactate values on the first day (p=0.13), they were higher in the group not receiving EN on the second day (p=0.04). The minimum–maximum noradrenaline (NA) dose given to the group not receiving EN was found to be high on the first and second days (first day min p=0.02 and max p=0.01; second day min p<0.01 and max p<0.01). In addition, the daily calorie intake in the group receiving EN was higher than the other group (first and second days p<0.01).

Conclusion: Lactate and vasopressor levels were found to be higher in patients who did not receive EN, whereas daily caloric intake was higher in the group receiving EN. Moreover, the effect of the early initiation (within the first 24–48 hours) of EN support therapy on the seven-day mortality was not observed in the shock patients receiving VP treatment.

Keywords: Enteral nutrition, vasopressor, intensive care

OP-14

Vitamin D Levels in Healthy Individuals and Individuals with Breast Cancer

İrem Alparslan[1], Gökhan Osmanoğlu[2], Anıl Evrim Türkmen Güngör[3], Semih Aydıntuğ[1]
[1]Prof. Dr. Semih Aydıntuğ Clinic, Ankara, Turkey
[2]Ankara Etlik State Hospital, Ankara, Turkey
[3]Department of Nutrition and Dietetics, Lefke Europe University, Cyprus

Objective: Vitamin D is a vitamin that melts in oil and is a group of hormones and hormone precursors. It plays an important role in the homeostasis of calcium and phosphorus. In recent studies, it has been reported that vitamin D deficiency is accompanied by inflammatory diseases, such as diabetes mellitus, cardiovascular diseases, obesity, and some types of cancer. Research has shown there is a widespread vitamin D deficiency both in our country and in other countries. The aim of the present study was to determine the level of vitamin D in healthy and women with new breast cancer and to investigate whether the level of vitamin D in women with breast cancer was lower than that in healthy women.

Methods: This cross-sectional study included 561 women who were admitted to a private clinic. Of these, 463 were healthy, and 98 were newly diagnosed with breast cancer. The patients did not use dietary supplements and accepted to participate. Vitamin D measurements were obtained (by liquid chromatography-mass spectrometry) when they first came to the clinic. Statistical analyses were performed using t-test and chi-square tests, where α=0.05.

Results: The mean vitamin D was 28.1 ng/ml in healthy women and 22.6 ng/ml in women with breast cancer (p<0.05). For evaluation of vitamin D levels, a serious deficiency, deficiency, optimal, and possible toxicity level was considered as <10 ng/ml, 10-25 ng/ml, 25-80 ng/ml level, and >80 ng/ml, respectively. Accordingly, of the healthy individuals, 6.7%, 38.2%, and 54.2% had serious deficiency, deficiency, and optimal levels of vitamin D. In women with breast cancer, these rates were found to be 14.3%, 48%, and 37.8%, respectively. The level of vitamin D in women with breast cancer was significantly low (p<0.05).

Conclusion: Vitamin D deficiency plays an important role not only in skeletal system disease but also in the development of many diseases, such as breast cancer. The level of vitamin D should be kept at an optimal level in both healthy individuals and patients.

OP-15

Evaluation of Malnutrition Development in Hospitalized Children and Their Caregivers

Hatice Pars[1], Hasibe Kazancı[2], Gülperi Söylemez Bayram[2]
[1]Hacettepe University, Faculty of Nursing, Ankara, Turkey
[2]Hacettepe University, Children Hospital, Ankara, Turkey

Objective: The aim of the present study was to explore the development of malnutrition in hospitalized children and their caregivers.

Methods: In this descriptive and cross-sectional study, the Waterlow and Gomez classification and Malnutrition Universal Screening Tool (MUST) screening tool were applied to 80 inpatients and their caregivers. Physical measurements were collected at hospital admission and at discharge. Z-scores of weight-for-length/height (WFL/H), weight for age (WFA), height-for-age, and body mass index (BMI)-for-age were calculated.

Results: A Z-score of <−2 was present in 25% of children at hospital admission and 31.2% at hospital discharge. According to the Gomez classification, 17.5% of children were in moderate (10%) and severe (7.5%) malnutrition at hospital admission; this rate was determined to be 25.1% at discharge. According to the Waterlow classification, 20% of children were in acute malnutrition at hospital admission, and 28.8% at discharge. In the MUST classification system, 26.3% of caregivers were obese. The length of hospital stay was determined to be longer for children with a 3% reduction in WFL/H, WFA, and BMI standard deviation score values (p<0.05).

Conclusion: Malnutrition remains to be a major problem at admission and hospitalization. All hospitalized patients should be evaluated with regard to nutrition, and in this way, early diagnosis and treatment of malnutrition would be provided.

Keywords: Hospitalized children, malnutrition, screening tools

OP-16

Determination of the Reliability and Validity of NUTRISCORE, Nutritional Risk Assessment Screening test, in Turkish Patients Under Treatment with Cancer

Elif Ak[1], Birsen Demirel[1], Beste M. Atasoy[2], Perran Fulden Yumuk[3], Esra Akdeniz[4]
[1]Department of Nutrition and Dietetics, İstanbul Bilgi University Faculty of Health Sciences, İstanbul, Turkey
[2]Department of Radiation Oncology, Marmara University School of Medicine, İstanbul, Turkey
[3]Department of Internal Medicine, Division of Medical Oncology, Marmara University School of Medicine, İstanbul, Turkey
[4]Department of Medical Education, Marmara University School of Medicine, İstanbul, Turkey

Objective: Malnutrition in cancer is a poor prognostic factor associated with disease and treatment. The development of screening and evaluation tools for identifying patients at risk of malnutrition is important in providing effective nutritional support. Therefore, it is possible to say that a new and valid screening test is needed in this patient group. The aim of the present study was to investigate the validity and reliability of NUTRISCORE, a new screening test designed to determine the risk of malnutrition in patients diagnosed with cancer.

Methods: The study was conducted between June 2018 and October 2018 in the Radiation Oncology and Medical Oncology polyclinics and treatment units. In the first part of the study, the language, scope, and structure validity of the scale were established. A total of 240 patients with a diagnosis of cancer who were >18 years old were included in the study. There were 94 female patients. NUTRISCORE was investigating the involuntary weight loss in the last 3 months, the appetite in the last week, and the tumor location and oncological treatment, in contrast to other tests. If the score was ≥5, the patient was at risk of malnutrition. Other screening tests used in the study were malnutrition screening tool (MST) and reference test subjective global assessment (SGA) test. The sensitivity, specificity, positive predictive, and negative predictive values of NUTRISCORE were calculated. The receiver operating characteristic curve interval was compared with each other. A p value of <0.05 was considered significant. The kappa coefficient was used for intergroup consistency.

Results: The nutritional status of the patients was 68.3% (n=164) normal and 31.7% (n=76) according to NUTRISCORE; 27% (n=65) were normal, and 73% (n=175) were at risk; according to SGA, 48.3% (n=116) were normal, 24.4% (n=61) were at moderate risk, and 26.3% (n=63) were at high risk. The sensitivity, specificity, positive predictive, and negative predictive values for tests. The kappa fit between SGA and NUTRISCORE was 0.793, and the kappa fit between SGA and MST was 0.741. There was no difference between the areas under the curve of the two screening tests (p=0.785).

Conclusion: In our study, NUTRISCORE, a new test that is evaluated in the Turkish validated form, can detect patients at risk with high accuracy and can be used as screening test.

Keywords: Cancer, malnutrition, NUTRISCORE, screening test

OP-17

Factors Affecting the Candidemia in Parenterally Fed Patients

Nursel Sürmelioğlu[1], Nadir Yalçın[2], Burcu Kelleci-Çakır[2], Kutay Demirkan[2], Murat Gündüz[3]
[1]Department of Clinical Pharmacy, Çukurova University Faculty of Pharmacy, Adana, Turkey
[2]Department of Clinical Pharmacy, Hacettepe University Faculty of Pharmacy, Ankara, Turkey
[3]Department of Anesthesiology and Reanimation, Çukurova University School of Medicine, Adana, Turkey

Objective: The incidence of candidemia has increased in recent years, and it is an important cause of mortality and morbidity in hospitals. Empirical treatment should be initiated in high-risk patient group to reduce the risk of candidemia. Clinical risk factors are usually used to identify high-risk patient group. Important risk factors for candidemia have been identified and indicated in the Candida Score. Parenteral nutrition (PN) is one of these important factors. The aim of the present study was to evaluate the risk factors other than the risk factors indicated in the Candida Score that may affect the development of candidemia in non-neutropenic adult patients who received PN treatment.

Methods: Patients who were admitted to a university hospital between January 1, 2018 and December 31, 2018, >18 years old, non-neutropenic, who did not receive chemotherapy during PN treatment, who were applied *Candida* growth screening tests before and after PN treatment, and who had a negative *Candida* growth screening test result before PN treatment were included in the study. Patients with and without *Candida* growth after PN treatment were compared with regard to demographic characteristics, days of hospitalization, duration of PN treatment, leukocyte, platelet, empiric antifungal administration, and other drugs. Statistical analysis was performed using SPSS V.23 program.

Results: A total of 75 patients were included in the study. From the total number of patients, 31 were female, the mean±standard deviation of age was 60.84±17.083 years, and in 28 of them, *Candida* growth was detected after PN treatment. The number of days in the hospital (p=0.023) and the duration of PN treatment (p=0.001) were found to be statistically related to *Candida* growth. The mean day of *Candida* growth duration was found to be 13.21±5.84 days in patients with *Candida* growth. In the binary logistic regression analysis to determine the effect of the drugs used on the growth of *Candida*, it was found that carbapenem (odds ratio (OR) 15.82 and 95% confidence interval (CI) 1.85–134.93, p=0.012), tigecycline (OR 38.32 and 95% CI 1.38–1062.08, p=0.031), and empirical antifungals (OR 0.014 and 95% CI 0.001–0.27, p=0.005) were found to be effective variables.

Conclusion: It should be kept in mind that the use of broad-spectrum antibiotics, especially carbapenem and tigecycline, may also present a risk for development of candidemia in patients receiving PN treatment, as well as the known risk factors, such as long duration of hospital stays and empirical antifungal agent usage.

OP-18

Effects of Omega-3 Fatty Acids on Proinflammatory Cytokines in an Experimental Model of Sepsis

Murat Arslan, Atilla Kuntman, Kubilay Demirağ, İlkin Çankayalı, Mehmet Uyar
Department of Anesthesiology and Reanimation, Division of Intensive Care, Ege University School of Medicine, İzmir, Turkey

Objective: The aim of the present study was to investigate the effects of omega-3 fatty acids on the level of proinflammatory cytokines (interleukin (IL)-1, IL-6, and tumor necrosis factor (TNF)-α) and survival in a sepsis rat model.

Methods: In the study, 40 albino Wistar adult rats weighing 300 g were divided into three groups: Group 1: sham group (n=10) (tactile stimulation of the intestine and cecum after laparotomy), Group 2: control group (n=15) (1 ml/kg saline was given intraperitoneally for 1 week before sepsis model with cecal perforation), and Group 3: omega-3 group (n=15) (1 ml/kg omega-3 fatty acid was given intraperitoneally for 1 week before sepsis model with cecal perforation). IL-1, IL-6, and TNF-α levels were measured at the beginning of the study (basal value) and at hour 3 in all groups.

Results: The 24-hour survival rates were 60% in the omega-3 group and 13.3% in the control group (p=0.008). Serum IL-1, IL-6, and TNF-α levels were significantly lower in the omega-3 group than in the control group at hour 3 (p<0.001).

Conclusion: We determined the positive effects of omega-3 fatty acids on proinflammatory cytokine levels, immune response development, and survival in experimental sepsis rat model that is considered to be related to the anti-inflammatory and immunomodulator properties of omega-3 fatty acids.

Keywords: Sepsis, inflammatory cytokines, omega-3, IL-1, IL-6, TNF-α

OP-19

Analysis of Clinical Studies on Nutrition Published During the Last Decade in Turkey

Cengiz Şahutoğlu[1], Alev Atalay[1], Kubilay Demirağ[2], Mehmet Uyar[2]
[1]Department of Anesthesiology and Reanimation, Ege University School of Medicine, İzmir, Turkey
[2]Division of Intensive Care, Ege University School of Medicine, İzmir, Turkey

Objective: Nutrition treatment involves people from different professions and requires teamwork. The aim of this study was to evaluate articles from Turkey in the field of nutrition that were published in Science Citation Index and Science Citation Index-Expanded (SCI/SCI-E) journals.

Methods: Between January 2009 and December 2018, studies including "clinical nutrition, enteral nutrition, parenteral nu-

trition, clinical trials, clinical studies, Turkey" were searched in PubMed, Web of Science, Scopus, and TÜBİTAK TR Dizin" database. Non-clinical nutrition studies, case reports, and letters to editor indexed in journals other than SCI/SCI-E journals were excluded from the study. Publication year, method, institution and department, the number of authors, nutrition type, the number of citations, and language were recorded.

Results: Only 12.6% (99 articles) of the 785 articles in the database matched the criteria. The maximum number of articles (13 articles) were published in 2014. Moreover, 45.5% of the studies were conducted at only one center and 39.4% at only one clinic. The mean number of authors was 5.9±3.3 [median: 5 (1–24)]. In five articles, there were foreign writers (two writers were corresponding author). Articles received a total of 1329 citations. The mean citation/publication year was 2.2±2.3 [median: 1.5 (0–11)], and there was no difference between the years. The departments from which the greatest number of articles were published included Pediatrics (27.3%), General Surgery (20.2%), and Anesthesiology and Reanimation departments (18.2%). In total, 62.6% of the studies were prospective randomized studies. Enteral nutrition was the most common nutrition type (43.4%), followed by parenteral nutrition (41.4%). As the primary target of the studies, the efficacy of the product used was evaluated in 39% of the studies and the effect of the product on clinical results was evaluated in 24.2% of the studies. Additionally, 48.5% of the studies included adult patients and 29.3% included children; moreover, 22.2% of the studies were experimental studies. In total, 19.2% of the studies (19 articles) were published in a Turkish journal and only one article was published in Turkish.

Conclusion: Over the years, there was no significant increase in the number and the quality of publications in clinical nutrition in Turkey. Therefore, there is a need for verbal and written platforms where the difficulties of conducting a clinical study in Turkey can be discussed and solution suggestions can be presented.

Keywords: Clinical nutrition, enteral nutrition, parenteral nutrition, clinical trials, clinical studies, Turkey

OP-20

Skeletal Muscle Morphometry in the Diagnosis of Sarcopenia: Correlation Between Ultrasound and Computed Tomography

Ezgi Yılmaz, E. Murat Arsava, M. Akif Topçuoğlu
Department of Neurology, Hacettepe University School of Medicine, Ankara, Turkey

Objective: Methods used for measurement of skeletal muscle mass, one of the main criteria for diagnosis of sarcopenia, include ultrasonography (US) and computed tomography (CT). Although the advantages and disadvantages of these two modalities are well established, the correlation between them has not been clarified entirely. To determine the correlation between US-and CT-based determination of skeletal muscle area and thickness.

Methods: US and CT measurements of the cross-sectional area and thickness of the biceps brachii (BB) and the rectus femoris (RF) muscle, thickness of mid-thigh muscle (RF and vastus intermedius EM+VIM), and vastus lateralis (VL) were performed with a maximum of 1 h duration apart in patients with acute/subacute stroke. The mean±standard deviation and 95% confidence intervals (CI) of all numerical parameters were produced for the right, left, and both sides in combination. Pearson and concordance correlation along with Bland-Altman graphical analyses were utilized.

Results: In 18 patients (age: 82±6 years, 10 females), muscle thickness and areas measured with CT were numerically higher than those with US. Pearson correlation between US and CT was "highly positive" for BB area (right: r=0.6332 [95% CI 0.2193-0.8540], left: r=0.7495 [95% CI 0.4348-0.9011], combined r=0.6928 [95% CI 0.4675-0.8336]; "significantly positive" for BB thickness (combined, r=0.4376, p=0.0086), RF area (combined, r=0.3689, p=0.0292), RF thickness (combined, r=0.4451, p=0.0065) and VL thickness (combined, r=0.5356, p=0.0008); and "fair" for RF+VIM thickness). Bias correction factors were 0.9658, 0.6887, and 0.6386 for BB area, RF area, and thickness, respectively; and 0.2850, 0.3579, and 0.3301 for BB, RF+VM, and VL thicknesses, respectively.

Conclusion: Measurement of muscle area with CT and US shows a good positive agreement for biceps brachii and rectus femoris. Lower correlation observed in cross-sectional thickness seemingly reflects "a priori" technical differences between CT, where measurements were performed in the fixed predetermined location, and US, where measurements were performed in the region with apparently the thickest muscle section.

OP-21

The Effect of Preoperative Nutritional Support on Postoperative Period in Patients with Lung Cancer

Sevda Kalafat[1], Celalettin İbrahim Kocatürk[3], Cem Emrah Kalafat[1], Celal Buğra Sezen[2], Zeynep Koç Özerson[4]
[1]Clinic of Nutrition and Dietetics, Mardin State Hospital, Mardin, Turkey
[2]Department of Thoracic Surgery, Health Sciences Universiy Yedikule Chest Diseases and Chest Surgery Hospital, İstanbul, Turkey
[3]Department of Thoracic Surgery, İstinye University School of Medicine, İstanbul, Turkey
[4]Haliç University Institute of Health Science, İstanbul, Turkey

Objective: Malnutrition is a frequently observed condition in patients with cancer, but it also provides a basis for many complications, from delay of wound healing to major complications that may be life-threatening in surgical patients. Therefore, patients should be taken into nutritional evaluation when they are diagnosed with cancer and planning surgical treatment; patients with a risk of malnutrition or diagnosis should be treated as soon as possible. The aim of the present study was to investigate the effect of preoperative nutritional support on postoperative morbidity, mortality, and length of stay in patients scheduled for operation due to non-small cell lung cancer (NSCLC).

Methods: This study was conducted on 181 patients who were operated for lung cancer between January 1 and December 31, 2017 at Yedikule Chest Diseases and Chest Surgery Hospital.

Results: 81.2% of the patients were male, and 18.8% were female. The mean age was 59.74±8.9 years. The mean BMI of the patients was 25.33±3.87 kg/m², and the mean mass of lean tissue was 56.86±8.2 kg. 52.5% of the patients had NRS-2002 score 2; 30.4% 3, 12.7% 4, and 4.4% 5. While 38.1% of the patients developed complications, the rate of major complications was 18.8%. The mean hospitalization time was 7.67±5.87 days. Complications were observed in 62.5% (n=5) of the patients whose NRS-2002 scoring was 5, whereas this ratio was 39.1% (n=9), 21.8% (n=9) 12), and 45.3% (n=43) in patients with NRS scoring 4.3 and 2, respectively (p=0.016). It was found that the complication development increased 7.2 times by diabetes; 5.1 times by chest wall resections; 2.7 times by taking NRS-2002 score 2, thus not receiving nutritional support; and 8.7 times by taking NRS-2002 score 5. Pneumonectomy, chest wall resections, and not receiving nutritional support increased major complication rate by 4.6, 7.8, and 10.1 times respectively.

Conclusion: In patients receiving nutritional support, the incidence of complications was significantly decreased, hospitalization time was shortened, and albumin loss was less on postoperative month 1. Pneumonectomy, chest wall resection, and not receiving nutritional support were factors that increased major complication rate. Only nutritional support can be arranged by the clinician preoperatively. For this reason, we recommend that patients with extended lung resection should be given nutritional support treatment even though the level of nutrition is adequate with pre-evaluation tests.

Keywords: Malnutrition, NRS-2002, nutritional support treatment, lung cancer, surgical treatment

OP-22

Evaluation of the Availability of Targeted Nutritional Support in Patients Fed Via Feeding Tube Consulted to the Nutritional Support Unit from the Palliative Care Unit of Izmir Bozyaka Training and Research Hospital

İrem Gültekin, Meryem Sevinç, Erol Aktay, Müberra Koç, Yeter Bulut, Canan Türe
Nutritional Support Unit, Health Science University Bozyaka Training and Research Hospital, İzmir, Turkey

Objective: Providing protein, energy, vitamin, and mineral needs of palliative care patients who carry risk of malnutrition and undernourishment is important to avoid or delay the poor prognosis. The aim of the present study was to evaluate the situation of achieving the energy and protein intake goals of tube feeding patients who consulted to the nutritional support team from the palliative care unit.

Methods: Between January 2017 and December 2018, tube feeding patients who consulted to the nutritional support team from the University of Health Sciences Izmir Bozyaka Education and Research Hospital Palliative Care Unit are evaluated. Patients were evaluated by the Nutritional Risk Screening-2002 (NRS-2002). Energy requirements are calculated by Schofield Equation Protein needs determined as 1.0-1.5 g/kg/day. Intended energy and protein intakes at the beginning of treatment and amounts patients could take are compared.

Results: There were 22 (57.9%) male and 16 (42.1%) female patients. A total of 38 patients were included in the study. The average age was 68.37±20.65 (between 28 and 93) years, and mean body mass index was 23.32±5.90 (between 14.0 and 42.9) kg/m². Patients were having treatment in the palliative care unit with a diagnosis of five oncologic diseases: 12 SVA, 1 CKD, 4 trauma, 1 anoxic brain injury, 13 neurological diseases (e.g., Alzheimer, epilepsy, and Parkinson's disease), and 2 intracranial hemorrhage. Of the 38 patients, 15 were fed via nasogastric tube, 21 percutaneous endoscopic gastrostomy, and 2 nasojejunal tube, and the mean NRS-2002 score was 4.82±0.98 (between 3 and 6). No statistically significant difference (p>0.05) was found in body mass indexes and NRS-2002 scores of the patients as reaching the energy and protein intake goals. In 23 of the patients, intended protein and energy intake goals were reached. In patients who could not reach the intended amounts, reasons were as follows: 1 vomiting, 8 diarrhea, 2 aspiration, 1 discharged home, 2 leaks or erythema in percutaneous endoscopic gastrostomy, and 1 not having appropriate product in the hospital pharmacy.

Conclusion: In palliative care patients, inadequate nutrition is one of the most common problems. Evaluating and supporting nutrition is an important element of palliative treatment. Choosing appropriate feeding way, calculating daily nutritional requirements, and tracing of reaching goals are important in patients consulted to the nutrition unit. Investigating the reasons of intoleration and making appropriate changes in treatment may help in reaching the nutritional goals in patients who could not take the intended amounts of nutrition.

Keywords: Palliative, tube feeding, energy-protein need

OP-23

Influence of Nutrition Support Team on the Use of Nutritional Products

Kamil Gönderen[1], Gamze Tokgöz[2]
[1]Department of Internal Diseases, Division of Intensive Care, Kütahya Health Sciences University Evliya Çelebi Training and Research Hospital, Kütahya, Turkey
[2]Department of Pharmacy, Kütahya Health Sciences University Evliya Çelebi Training and Research Hospital, Kütahya, Turkey

Objective: Incidence of malnutrition among hospitalized patients is high despite improvements in nutrition support therapies. Malnutrition is a condition that increases morbidity and mortality in patients and prolongs hospital stays, thus leading to higher hospital costs. In patients with malnutrition, higher health spending is observed due to insufficient feeding and inappropriate selection of feeding routes. For these reasons, a nutrition support team (NST) was established at our hospital in 2017; subsequently, all nurses and physicians working at the hospital were trained on appropriate nutritional support products and routes. The aim of this study was to determine the change in product use rates after the establishment of the NST in 2017.

Methods: The data on the number of patients using total parenteral nutrition (TPN) and the quantities of TPN products used at our hospital wards and intensive care units were obtained from the pharmacy unit of Evliya Çelebi Education and Research Hospital, KSBU.

Results: The total number of patients using TPN was 7,872 in 2016, 7,258 in 2017, and 5,968 in 2018. The total number of TPN products used was 8,783 in 2016, 7,893 in 2017, 6,104, 9.8 in 2018, 7,893 in 2017, and 6,104 in 2018. Further, TPN use rates per patient were 1.11 in 2016, 1.08 in 2017, and 1.02 in 2018. The number of patients using enteral nutritional products was 4,376 in 2016, 5,790 in 2017, and 7,582 in 2018, whereas the number of enteral products used was 16,836 in 2016, 22,237 in 2017, and 25,753 in 2018. The enteral product use rates per patient were 3.84 in 2016, 3.84 in 2017, and 3.39 in 2018.

Conclusion: In this study, we demonstrated that TPN and enteral product use rates decreased owing to the education and recommendations provided by the NST. Previous studies have shown that nutritional support and standardization provided by a multidisciplinary team result in lower number of complications and a positive financial impact on health institutions. Our hypothesis is that the endorsement and widespread implementation of multidisciplinary support teams would benefit patients and hospitals.

Keywords: Nutritional support team, nutritional support, malnutrition

OP-24

The Effect of Mothers' Dietary Habits on Children's Weight

Ayşegül Bükülmez[1], Ayşe Tolunay Oflu[1], Lütfi Molon[1], Hülya Aydın[2], Tolga Altuğ Şen[1]
[1]Department of Pediatrics, Afyonkarahisar Health Sciences University School of Medicine, Afyonkarahisar, Turkey
[2]T.C. Ministry of Health, Konya Provincial Health Directorate, Konya Dr. Ali Kemal Belviranlı Obstetrics and Pediatrics Hospital, Konya, Turkey

Objective: Nutrition in the childhood period is important for preventing the incidence of obesity and the occurrence of obesity-related diseases in later years. Eating habits are affected with personal characteristics and environmental factors. It is known that the family plays a very important role in the eating habits and food consumption of their children. The aim of the present study was to determine the effect of mothers' feeding habits on weight status of their children.

Methods: A questionnaire was performed by face-to-face interviews with 120 mothers who have children aged between 5 and 18 years consulted to the pediatrics polyclinic for routine control. Approval was obtained from the ethics committee. Data were evaluated using SPSS 22 package program.

Results: The mean age of the children was 10.5±3.3 years; 52 (43.3%) were girls. The mean body mass index was 18.3±5.1 kg/m^2. In the distribution of weight status, 12 (10.0%) were weak, 85 (70.8%) were normal, 12 (10.0%) were overweight, and 11 (9.2%) were obese. The mean age of the mothers was 35.1±5.1 years. The rate of children making breakfast everyday was 81.7%. A significant relationship was found between children's breakfast habits (≥3 days/week/between 2 days/week) and weight status (p=0.005). It was found that highly educated mothers have an increase frequency of using olive oil, and that their children have an increase frequency of drinking milk (p=0.016 and p=0.012, respectively). In addition, it was found that highly educated mothers have a decrease in white bread consumption, and that the frequency of whole grain bread consumption increased. It was found that overweight and obese individuals consumed less fruits and dried fruits (p=0.010 and p=0.006, respectively). The consumption of milk and yogurt was significantly less in children with weakness (p=0.029 and p=0.011, respectively). No significant relationship was found between the child's school status, sports, playing outside on weekdays or weekends, playing computer games on weekdays or weekends, watching TV on weekdays or weekends, and the status of parents' sports and their child's weight status (p>0.05).

Conclusion: Especially mothers play an effective role on regular and balanced nutrition for their children to have healthy weight. In addition, it should be noted that breakfast, which is the most important meal, is effective in maintaining healthy weight.

Keywords: Eating habits, obesity, breakfast

OP-25

Evaluation of the Association Between Furosemide Treatment and Thiamin Deficiency in Patients with CHF and CRF Followed by Hypervolemia

İ. İrem Biçer, Oğuzhan Sıtkı Dizdar, Hüseyin Biçer, Ali İhsan Günal, Kürşat Gündoğan, Engin Dondurmacı, Ahmet Tok
Clinic of Internal Medicine, Kayseri State Hospital, Kayseri, Turkey

Objective: The aim of the present study was to evaluate the association between furosemide treatment and thiamin deficiency in patients who had hypervolemia with congestive heart failure and chronic renal failure.

Methods: The study included 61 patients with congestive heart failure and chronic renal failure (mean age 69.00±10.39 years, 39 (64%) women and 22 men (36%)) who were hospitalized because of hypervolemia in Kayseri City Hospital Nephrology and Internal Medicine Department. Hypervolemia was diagnosed according to echocardiography and physical examination findings (crepitant rales, acid, pretibial edema, and pleural effusion). Blood was collected for measurement of thiamine level before treatment in patients who were scheduled to receive intravenous furosemide (40-200 mg/day) for their treatment. The patients continued to receive their treatments, and on days 2 and 4, blood was obtained for control thiamin levels. The normal range of thiamine concentration was determined to be 35-99 ng/ml. It was defined as thiamine deficiency if <35 ng/ml.

Results: The mean thiamine level in the blood samples of the patients (day 0) was found to be 51.71±20.66 µg/ml, on day 2 of treatment 47.64±15.43 µg/ml, and on day 4 43.78±16.20 µg/ml.

Thiamine levels between day 0 and day 2 decreased 3.47±16.94 µg/ml, but were not significant (p=0.134). At days 2 and 4 of thiamine levels, a decrease of 3.43±11.12 µg/ml was found, but not significant (p=0.032). Thiamine levels on days 0 and 4 decreased to 8.47±22.33 µg/ml and were statistically significant (p=0.009). The change in thiamine level in patients with congestive heart failure was statistically significant between day 0 and day 2 and between day 0 and day 4 (p=0.047 and p=0.020).

Conclusion: In our study, a significant decrease was found in the thiamin level of furosemide treatment given for treatment of patients with hypervolemia due to congestive heart failure and chronic renal failure.

OP-26

Is FEES (Fiberoptic Endoscopic Evaluation of Swallowing) Video Recording Necessary?

M. Akif Topcuoglu, M. Yasir Pektezel, Ezgi Yılmaz, Numan Demir, Ethem M. Arsava
Department of Neurology, Hacettepe University School of Medicine, Ankara, Turkey

Objective: Fiberoptic endoscopic evaluation of swallowing (FEES) is an objective and standardized method of bedside dysphagia evaluation. FEES is based on the direct visualization of the pharyngeal phase of deglutition with nasopharyngoscope during ingestion of food coloring added nutrients/fluids with various consistencies, such as liquid, nectar, honey, and solid. It is recommended that the entire procedure is to be recorded and evaluated later off-line. To evaluate performance of on-line decisions of involved clinician using standardized FEES protocols against off-line decision-making by an expert panel.

Methods: The study included 38 patients with acute stroke (age: 69±15 years, 21 women) who were hospitalized in the stroke or neurointensive care units and were not categorized as having surely safe swallowing on clinical examination. Feeding tube location, oropharyngeal secretion grading (Murray secretion score, MSS, 0-3), penetration aspiration scale (PAS, liquid, semi-solid, and solid separately, 1-8 and 1-3 grade), and residue location and amount (The Yale pharyngeal residue scale, YFRS: a-vallecula, 1-5 grade, b-piriform sinuses, 1-5 grade) were evaluated. All examinations were recorded to video; on-line and off-line scores were compared with detailed descriptive, Kendall tau, and Bland-Altman graph methods.

Results: Correlation between immediate evaluation during the FEES procedure and off-line analysis was "sufficient" for secretion (tau=0.530, p<0.0001) and PAS scores (PAS 1-3 fluid: tau=0.209, p=0.0971; PAS 1-3 semi-solid: tau=0.616, p=0.0012; PAS 1-3 solid: tau=0.551, p=0.0004). Correlation was not in the acceptable level with regard to residue amount evaluation (YFRS piriform: tau=0.128, p=0.3561; YFRS vallecula: tau=0.132, p=0.3540). 70% of the study population were scheduled to oral (+thickening and rehabilitation) feeding, 22% with PEG, and 8% with feeding tube. Video recording and subsequent assessment were not seemingly necessary in the decision-making between "oral/non-oral" nutrition, whereas they were certainly required for evaluation and categorization of liquid aspiration (PAS 1-3 and 1-8 fluid), residue location and amount, and presence of "subtle" penetration close to "the white-out" phase.

Conclusion: In the clinical practice of acute stroke, video recording and subsequent evaluation of the bedside swallowing test with FEES result in some significant alterations in the interpretation of the test. Video evaluation of FEES recording is more decisive with regard to the use of therapeutic procedures, such as rehabilitation, thickening use, and positioning maneuver, than the choice of feeding route.

OP-27

Nutritional Evaluation of Patients with Stable COPD Before Pulmonary Rehabilitation

Ayşe Bahadır, Kevser Çalı, Murat Kıyık, Nilgün Ulukol, Tuğçe Barça Şeker
Health Sciences University Yedikule Chest Hospital and Thoracic Surgery Research and Training Hospital, İstanbul, Turkey

Objective: COPD is a systemic disorder that can cause weight loss, decrease in muscle mass, malnutrition, and cachexia because of multiple causes. Malnutrition and cachexia have negative effect on prognosis. They may cause worsening in symptoms, restriction in daily activities, recurrent hospitalizations, and increase in treatment costs. The aim of the present study was to evaluate characteristics of patients with stable COPD who were consulted in nutrition outpatient clinic before pulmonary rehabilitation (PR).

Methods: A total of 187 patients who were admitted to the nutrition outpatient clinic between January 2017 and October 2018 were included in the study. Nutrition risk evaluation was evaluated by using NRS-2002 scale. Patients whose NRS-2002 score was ≥3 points were accepted as the malnutrition risk group. Bioelectrical impedance analysis (BIA) was used to determine body composition. Fifty patients whose BIA could not be performed were excluded from study. Body mass index (BMI) <18.5 kg/m^2 was accepted as malnutrition. Fat free muscle index (FFMI) was calculated as division of fat free mass (FFM) by height in meters squared. Cachexia was defined as FFMI <15 kg/m^2 for females and 17 kg/m^2 for males. Age, gender, body compositions, NRS-2002 scores, C-reactive protein (CRP), and albumin values were compared between cachectic and noncachectic groups. SPSS for Windows version 21.0 was used for statistical analysis. P<0.05 was accepted as statistically significant.

Results: There were 19 (13.8%) female and 118 (86.1%) male patients. The mean age was 64.1±9.0 years. 68.4% of the patients had malnutrition risk, and 32.8% had malnutrition. According to FFMI evaluation, 18% of patients with normal BMI and 40% of all patients were cachectic. The mean NRS-2002 score of the cachectic group was higher than that of the noncachectic group. There was no significant difference between two groups with regard to mean age, gender, CRP, and albumin values.

Conclusion: According to our results, 1/3 of pre-rehabilitation patients with COPD were malnourished, and nearly half of them were cachectic. Investigation of weight loss and nutritional sta-

tus would preclude malnutrition and increase gains of the rehabilitation programs.

Keywords: COPD, pulmonary rehabilitation, cachexia

OP-28

Relationship Between the Patient Characteristics, Reaching the Nutritional Targets, and Clinical Outcomes in Patients who Consulted to the Nutritional Support Unit in a University Hospital

Kamil İnci[1], Burhan Sami Kalın[1], Eda Macit Aydın[2], Havva Nur Karaaslan[2], Ş. Gülbin Aygencel Bıkmaz[1], Mehmet İbiş[1], Lale Karabıyık[2], Bijen Nazlıel[3], Osman Yüksel[4], Hacer Demir[5], Ezime Toruk[5], Melda Türkoğlu[1]
[1]Department of Internal Medicine and Nutritional Support Team, Gazi University School of Medicine, Ankara, Turkey
[2]Department of Anesthesiology and Reanimation and Nutritional Support Team, Gazi University School of Medicine, Ankara, Turkey
[3]Department of Neurology and Nutritional Support Team, Gazi University School of Medicine, Ankara, Turkey
[4]Department of General Surgery and Nutritional Support Team, Gazi University School of Medicine, Ankara, Turkey
[5]Nutritional Support Team, Gazi University School of Medicine, Ankara, Turkey

Objective: Hospitalization is strongly linked to malnutrition due to stress metabolism and catabolism. However, there are conflicting results about the relationship between rates of reaching targeted nutrition and clinical outcomes in different patient subgroups. The aim of the present study was to evaluate the relationship between the characteristics of patients, reaching the nutritional targets, and clinical outcomes in patients who consulted to the nutritional support unit (NSU) in our university hospital.

Methods: In the present study, hospitalized patients who were consulted to the NSU between 2014 and 2018 in Gazi University, School of Medicine Faculty Hospital were enrolled. Reaching of nutritional targets and relationship with clinical outcomes were evaluated. Data about reaching nutrition targets and outcome were evaluated by using univariate and multivariate analyses.

Results: The median age of the patients was 64 (53–75) years, and 42% were female in 1916 patients. Forty percent of patients were followed up in intensive care units. The most common causes of hospitalization were malignancies (40%), endocrinological diseases (30%), and central nervous system diseases (16%). The most common indications of being consulted to the NSU were insufficient oral intake (45%), contraindication for oral intake (35%), and perioperative support (20%). Feeding route was only enteral in 14%, only parenteral in 62%, enteral and parenteral at the same time in 14%, and enteral and parenteral in different times in 10% of the patients. The frequency of malnutrition was 82% according to Nutritional Risk Screening (NRS)-2002 score and 87% according to Subjective Global Assessment (SGA) and Mini-Nutritional Assessment scores. Target calorie level was 1520 (1345–1695) kcal/day, maximum delivered calorie was 1266 (1048–1485) kcal/day, and median delivered calorie was 1000 (866–1134) kcal/day. Target protein level was 90 (79–101) g/day, maximum delivered protein was 65 (54–77) g/day, and median delivered protein was 45 (30–60) g/day. Targeted calorie levels could be reached in 53% of the patients, and targeted protein levels could be reached in 31% of the patients. Independent risk factors for reaching targeted calorie levels were being an intensive care unit patient, malnutrition (according to NRS-2002 or SGA scores), and moderate or high malnutrition risk (according to Malnutrition Universal Screening Tool (MUST) score) ($p<0.05$). In-hospital mortality was 25%, and independent risk factors for mortality were being an intensive care unit patient, malnutrition according to SGA score, moderate or high malnutrition risk according to MUST score, advanced age, and longer time between hospitalization day and the day of NSU consultation ($p<0.05$). There was no significant difference in mortality between patients who reached the targeted calorie or protein levels and who did not ($p<0.05$).

Conclusion: Malnutrition is an important predisposing factor for mortality in hospitalized patients. The effect of reaching nutritional targets on hospital outcomes should be evaluated with further randomized controlled trials targeting wider populations in different patient subgroups.

OP-29

"Gastric Residual Volume" Problem in Enteral Nutrition: An Evaluation and Management in Critical Patients

İsmail Gömceli, Ayhan Hilmi Çekin, Orbay Harmandar, Nilhan Sesli Orman, Filiz Özcan, Melike Yıldız, Mihrican Şimşek, Mediha Gündoğdu, Burçin Turan, Gülhan Ülküdür
Clinic Nutrition Unit, Health Sciences University Antalya Training and Research Hospital, Antalya, Turkey

Objective: Reduced gastrointestinal motility, drugs, hyperglycemia, electrolyte disorders, hypoxia, sepsis, increased intracranial pressure, caloric density, or high gastric residual volume (GRV) due to hyperosmolar products may decrease the effectiveness of enteral nutrition in intensive care unit (ICU) patients. To evaluate the GRV in clinical practice, which decreases the effectiveness of enteral feeding by causing long intervals

Methods: A total of 543 patients who were fed by tube and had GRV complications were included in the study. Our nutritional support team created an algorithm for nutritional therapy. All the personnel who applied the nutritional treatment plan to the patients were trained on the algorithm. Patients who were fed by tubal enteral were fed via continuous infusion method in 4-hour periods for 20 h. A volume more than two times the hourly dose was accepted as GRV complication. In the amount of GRV <500 ml, the dose was halved, and prokinetic was started. Enteral nutrition was terminated at doses >500 ml, and the patient was re-evaluated for GIS dysfunction. Nasojejunal tube feeding was continued in appropriate patients.

Results: GRV complications were observed in 6.3% of 543 patients fed by tube. In 35.3% (n=12) of 543 patients, enteral feeding had to be discontinued. In 64.7% of 543 patients, enteral feeding was continued by using intravenous prokinetic or nasojejunal feeding.

Conclusion: Feeding by enteral route prevents complications, such as infection, and decreases ICU duration and mortality. GRV amount to terminate enteral feeding is controversial. In studies conducted on this subject, it has been suggested that the complication risk increases with volumes of >200–500 ml. In units with strict follow-up of tube feeding, a dose of 500 ml may be the limit of termination of administration. GRVs >500 ml should be evaluated for GIS dysfunctionality. In recent years, GRV control is not recommended during the follow-up of tube nutrition. However, poor clinical outcomes can be prevented by accurate, corrective, and timely measures (initiating prokinetic and proper nasojejunal nutrition planning) in patients with GIS intolerance findings. Considering critically ill patients, our clinical results and the feeding algorithm that we used have enabled us to make significant progress in solving the GRV problem.

OP-30

Cross-Sectional Evaluation of the Nutritional Status of Patients with Cancer with Patient Generated Subjective Global Assessment Hospitalized at the Oncology Unit of Adnan Menderes University Hospital of Application and Research

Didem Güneş[1], Dilek Ongan[2]
[1]Nutrition and Diet Unit, Aydın Adnan Menderes University, Application and Research Hospital, Aydın, Turkey
[2]Department of Nutrition and Dietetics, İzmir Katip Çelebi University Faculty of Health Sciences, İzmir, Turkey

Objective: Malnutrition is a nutritional problem that negatively affects patients with cancer during the process of disease, and it may present at the diagnosis continuing till the end of the treatment. Studies showing unfavorable effects of malnutrition on patients have reported that malnutrition decreases the efficacy and tolerance of the disease, increases complications, and increases hospitalization and healthcare costs. Therefore, screening and assessing the nutritional status of the patients are one of the most important tools in the treatment and fight against cancer. The aim of the present study was to screen and assess the nutritional status of hospitalized inpatients with cancer.

Methods: This cross-sectional and descriptive study was conducted between November 2018 and January 2019 at Aydın Adnan Menderes University, Faculty of Medicine Hospital with patients hospitalized in the oncology unit to screen their nutritional status. Data were collected with a structured questionnaire form and Patient Generated Subjective Global Assessment (PGSGA) scale with a face-to-face interview after obtaining oral consent. Data were analyzed using SPSS 16.0.

Results: Of the patients, 65.9% were men, and 34.1% were women. The mean age of the patients was 61.7±12.5 years. The most frequent cancer types were lung (30%), colon (12.7%), and gastric cancer (10.9%) in men, whereas they were ovary (21.1%), lung (15.8%), and breast cancer (15.8%) in female, respectively. Gastrointestinal system (GIS) cancers were seen in 43.1% of the patients. Chemotherapy (38.9%), chemo+surgery (35.3%), and chemo+radiotherapy (12.0%) were applied. Total mean PGSGA scores in men and women were 5.5±2.5 and 6.5±2.8, respectively (p=0.024). There was a difference between mean PGSGA scores within age groups (<65 years: 5.5±2.7 and >65 years: 6.3±2.5, p=0.049). Mean PGSGA score of the patients with GIS cancer was higher than those with other cancer types (6.4±2.6 and 5.4±2.6, p=0.028). According to the general assessment of the PGSGA, 44.9% of the patients were well nourished, 29.9% had moderate/suspected malnutrition, and 25.1% were severely malnourished. Linear regression analysis results have demonstrated that PGSGA score was influenced by serum albumin level (PGSGA=9.620±1.316*albumin; p<0.001), whereas CRP level, number of the additional diseases, and number of the treatments did not influence PGSGA (p>0.05).

Conclusion: Malnutrition is an important problem in cancer, and by detecting, planning should be done for treatment and prevention. Determination of the problem and continuity of monitoring gain more importance for increasing the efficacy of the treatment.

Keywords: Cancer, malnutrition, PGSGA, screening

OP-31

The Effect of Oral Nutrition Support on Quality of Life and Nutritional Parameters in Patients with Cancer Receiving Chemotherapy

Özge Kama Başcı[1], Gülnur Kösem[1], Gamze Göksel[2], Ahmet Dirican[2], Erhan Eser[3], Melek Çivi[4]
[1]Department of Internal Diseases, Celal Bayar University School of Medicine, Manisa, Turkey
[2]Department of Medical Oncology, Celal Bayar University School of Medicine, Manisa, Turkey
[3]Department of Public Health, Celal Bayar University School of Medicine, Manisa, Turkey
[4]Department of Anesthesiology and Reanimation, Celal Bayar University School of Medicine, Manisa, Turkey

Objective: In patients with cancer, malnutrition observed in high incidence is a clinical condition that decreases the quality of life and increases the morbidity and mortality. This study aimed to evaluate the effect of oral nutritional support (ONS) on quality of life and nutritional parameters in patients with cancer receiving chemotherapy.

Methods: The records of 54 malnourished patients at different systems and stages, whose NRS2002 score was ≥3, who were started ONS, and who were receiving chemotherapy for the last six months in the outpatient clinic of medical oncology were retrospectively evaluated. The daily total energy requirement was planned to be 1.3 times of the basal energy measured with Tani-

ta, and protein requirement was planned to be 1.5 g/kg/day. The amount of portion that patients could consume in their meals was determined. The nutrient list and the amount and content of ONS to be consumed in meals was planned to complement the daily energy and protein requirements. Baseline data and subsequent chemotherapy regimens were recorded prior to ONS. The EORTC QLC-C30 quality of life scale with 15 sub-items was applied through one-to-one interviews. Anthropometric measurements (BMI, mid-arm circumference), laboratory measurements (albumin, lymphocyte, CRP), and muscle strength with handgrip strength test were recorded. The Wilcoxon test was used to evaluate the objective and subjective parameters before and after ONS. Correlations between nutritional parameters and quality of life functions were evaluated with non-parametric Spearman test. The analyses were performed with the SPSS 21.00 software.

Results: The mean age of the 54 patients (37 male, 17 female) was 60.2 (minimum 36, maximum 80) years. Of the patients, 38.9% were metastatic; 55% had gastrointestinal system cancers; 11.1% had lung, head, and neck and genitourinary system cancers; 9.3% had breast cancer; and 2% had skin cancer. In the third-month values after the beginning of ONS, there was no significant difference in quality of life functions compared to baseline values. From symptom scores, there was a significant decrease in loss of appetite (p=0.35) and financial impact (p=0.27). On the other hand, a reduction at the limit of significance was observed in constipation (p=0.54) and pain (p=0.57). Anthropometric measurements showed no significant increase and decrease. There was borderline significance in the increase in albumin (p=0.53) and decrease in CRP (p=0.57).

Conclusion: While positive responses to ONS were obtained in clinical symptoms and laboratory parameters in early follow-up of patients with cancer receiving chemotherapy, its effect on quality of life-related functions could not be demonstrated.

Keywords: Cancer, nutrition, quality of life

OP-32

Glutamine Use in Pelvic Sarcopenia: A Prospective, Randomized, Placebo-Controlled Study

Gülistan Bahat[1], Birkan İlhan[2], Nalan Çapan[3], Cihan Kılıç[4], Cenk Yaşa[5], Funda Güngör[5], Özlem Persil Özkan[6], Ayşe Karan[3], Mehmet Akif Karan[1]
[1]Department of Internal Medicine, Division of Geriatrics, İstanbul University İstanbul School of Medicine, İstanbul, Turkey
[2]Department of Geriatrics, Dr. Ersin Arslan Research and Training Hospital, Gaziantep, Turkey
[3]Department of Physical Medicine and Rehabilitation, İstanbul University İstanbul School of Medicine, İstanbul, Turkey
[4]Department of Internal Medicine, Division of Geriatrics, İstanbul University İstanbul School of Medicine, İstanbul, Turkey
[5]Department of Urogynecology, İstanbul University İstanbul School of Medicine, İstanbul, Turkey
[6]Nutrition and Dietetics, İstanbul Arel University, İstanbul, Turkey

Objective: The objective of the present study was to determine the effect of additional oral glutamine supplementation to Kegel exercise on pelvic floor strength and clinical parameters of urinary incontinence in females.

Methods: This was a randomized, double-blind study. Females with urinary incontinence were included in the study. Digital test and a vaginal manometer were used for measuring the strength of the pelvic floor muscles. A 24-hour pad weight test was examined. Participants were randomized into two groups as oral glutamine 30 g/day and placebo. It was asked to use the supplementation and Kegel exercises to all participants for 3 months. Basic and 3rd month measurements were compared by paired sample T-test and Wilcoxon tests in each group. The progression between measurements at basic and 3rd months was compared between the groups by using Mann-Whitney U test (Clinical Trials protocol ID: 2014/1203).

Results: There were 11 patients in the glutamine arm and 18 patients in the placebo arm. The mean age of the patients was 58.2±6.6 years. Mean body mass index was 32.9±4.8 kg/m^2. There was no age difference between the groups (glutamine 59±3.8 years and placebo 57.8±7.9 years, p>0.05). In the glutamine arm, vaginal muscle strength as assessed by digital test was higher at the end of 3 months (2.9±0.7 and 4±0.9; 0-3 months, respectively, p=0.014); perinemeter measurements were not statistically different (27.4±8.3 and 31.2±8.9; 0-3 months, respectively, p>0.05); 24-hour pad weight was not different (p>0.05). In the placebo arm, there was a statistically significant progress in vaginal muscle strength as assessed by both digital test and perinemeter and 24-hour pad weight (p=0.005, 0.011, and 0.002, respectively). When we compare the progression scores between the groups, there was no statistically significant difference (p>0.05).

Conclusion: Our study suggests that glutamine supplementation does not provide additional benefit in the treatment of pelvic muscle sarcopenia in patients without protein-energy malnutrition.

OP-33

Evaluation of Preoperative Sarcopenia in Patients Undergoing Surgery for Gastrointestinal System Cancer

Gözde Şengül Ayçiçek[1], Timuçin Erol[2], Osman Abbasoğlu[2], Meltem Halil[1]
[1]Department of Internal Medicine, Division of Geriatrics, Hacettepe University School of Medicine, Ankara, Turkey
[2]Department of General Surgery, Hacettepe University School of Medicine, Ankara, Turkey

Objective: It has been shown that the incidence of sarcopenia increases in patients with cancer and associated with chemotherapy toxicity, postoperative complications, and decreased survival (1). Therefore, the evaluation of body composition is becoming increasingly important in these patients. The aim of the present study was to evaluate sarcopenia in patients who underwent surgery for gastrointestinal system (GIS) surgery.

Methods: Twenty-four patients aged ≥65 years who were admitted to the general surgery outpatient clinic were included in the study. After preoperative comprehensive geriatric assessment, the patients were evaluated by bioelectrical impedance analysis (BIA) and ultrasound (USG). Skeletal muscle index (SMI) was measured by BIA, and gastrocnemius (GK), rectus femoris (RF), rectus abdominis (RA), external oblique (EO), internal oblique (IO), and transversus abdominis (TA) muscle thicknesses were measured by USG. The cross-sectional area was also evaluated for RF muscle (RF CSA). The diagnosis of sarcopenia was made according to the European Working Group on Sarcopenia in Older People 2 criteria.

Results: The median age of the patients was 71.5 (65–87) years, and 58.3% were female. Of the 24 patients, 37.5% had upper GIS, 54.2% had lower GIS, and 8.3% had hepatobiliary system malignancy. The mean SMI value was determined as 10.1±1.9 kg/m^2. Sarcopenia incidence was 50% in these patients. It was found that 37.5% of these cases had possible, and 12.5% had severe sarcopenia. Mean GK thickness was 12.1±2 cm, RF thickness was 9.8±2.6 cm, median RF CSA was 3.2 (1.2–6.2) cm^2, mean RA thickness was 6.6±1.8 cm, EO thickness was 3.8±1.1 cm, IO thickness was 5.3±1.4 cm, and TA thickness was 3.6±0.9 cm. RF thickness and RF CSA were found to be thinner in patients with sarcopenia (p=0.02 and p=0.04, respectively).

Conclusion: Sarcopenia is a common health problem in older patients who are planned to undergo cancer surgery. Considering the relationship between possible complications and mortality, precautions should be taken for management of sarcopenia in these patients.

Reference

1. Shachar SS, Williams GR, Muss HB, Nishijima TF. Prognostic value of sarcopenia in adults with solid tumors: A meta-analysis and systematic review. Eur J Cancer 2016; 57: 58-67.

OP-34

Association Between Dysphagia and Frailty in Community Dwelling Older Adults

Gülistan Bahat[1], Özlem Yılmaz[1], Şükran Durmazoğlu[1], Cihan Kılıç[1], Mahmut Basar Aykent[2], Mehmet Akif Karan[1]
[1]Department of Internal Medicine Division of Geriatrics, İstanbul University İstanbul School of Medicine, İstanbul, Turkey
[2]Marmara University School of Medicine, İstanbul, Turkey

Objective: Dysphagia is described as a geriatric syndrome that occurs more frequently with aging. It is associated with deterioration in functionality but usually ignored. Frailty is a geriatric syndrome that is recognized more with its well-known adverse consequences. Very recently, dysphagia has been suggested to accompany frailty in older adults. We aimed to investigate the association between dysphagia and frailty in the community dwelling older adults. Prospective, cross-sectional study. Geriatric outpatient clinic. Older adults aged ≥60 years.

Methods: Dysphagia was evaluated by EAT-10 questionnaire and frailty by FRAIL scale. Hand grip strength (HGS) was evaluated by hand-dynamometer. Gait speed was evaluated by 4-meter usual gait speed (UGS). Nutritional status was assessed by mini nutritional assessment-short form (MNA-SF).

Results: 1138 patients were enrolled in the study. Mean age was 74.1±7.3 years. EAT 10 questionnaire was answered by all and FRAIL-scale by 851 subjects. EAT 10 score >15 points was regarded as a significant dysphagia risk. EAT-10 score >15 points was associated with older age (p=0.002), female gender (p<0.001), neurodegenerative diseases (p=0.002), higher number of chronic diseases (p=0.001), regular drugs (p=0.001), higher FRAIL score (p=0.001), lower HGS (p=0.002), UGS (p=0.01), and MNA-SF scores (p<0.001). In multivariate analyses, the factors independently associated with presence of EAT-10 score>15 were FRAIL score and the number of drugs.

Conclusion: Dysphagia is associated with frailty irrespective to age, presence of neurodegenerative diseases, number of chronic diseases, and drugs. To our knowledge, this is the largest series in the literature providing data on independent association of dysphagia with frailty.

OP-35

Evaluation of Patients who Consulted with the Nutrition Support Team

Kamil Gönderen[1], Gamze Tokgöz[2], Merve Keçicier[2], Elif Öztoprak Kol[2]
[1]Department of Internal Diseases, Division of Intensive Care, Kütahya Health Sciences University Evliya Çelebi Training and Research Hospital, Kütahya, Turkey
[2]Nutritional Support Team, Kütahya Health Sciences University Evliya Çelebi Training and Research Hospital, Kütahya, Turkey

Objective: Malnutrition incidence in hospitalized patients is high despite improvements in nutritional support therapies. Malnutrition is a condition that increases morbidity and mortality in patients, prolongs hospital stay, and thus causes higher costs. Nutritional support given by a multidisciplinary team has been shown in studies that have a positive effect on the patient and the hospital. The aim of the present study was to present the activities of the nutritional support team established in our hospital.

Methods: Kütahya University of Health Sciences Evliya Çelebi Education Research Hospital was reviewed retrospectively between April 2017 and December 2018 in consulted patients for nutritional support team (NST). Mortality, body mass index (BMI), change in Nutritional Risk Screening (NRS) 2002 score, enteral and parenteral nutrition rates, and feeding path changes were examined. Results of quantitative variables were expressed as mean, median, and standard deviation. Qualitative variables were expressed as frequency and percentage.

Result: A total of 511 patients were included in the study. The mean age of the patients followed up was 68.6 (18–99) years, and 49.5% were female. 251 (49.1%) of the patients were from intensive care units, and 260 (50.9%) were from the services. 69.2% (n=180) of these patients were from internal services, and 30.8% (n=80) from surgical services. Among the surgical services, the patients were mostly consulted by cardiovascular surgery (n=24) and orthopedics (n=22) services, and the

highest number of patients from palliative service (n=100) was consulted to the team. 20.6% (n=105) of the patients were given oral feeding, 65.8% (n=336) enteral nutrition, and 13.6% (n=70) of the parenteral nutrition therapy was recommended. The mortality rate was found to be 61.6% in high-risk patients with NRS 2002 score >5 and 38.4% in medium-risk patients with a score of 3–5. Mortality was higher in patients with high age and lower BMI. 32.1% (n=164) of the patients underwent oral or enteral feeding from inappropriate parenteral nutrition. The rate of patients with NRS 2002 score protected was 52.3% (n=267), and the ratio of patients with regression was 39.5% (n=202).

Conclusion: Nutritional support with a multidisciplinary approach to patients with hospitalized malnutrition or malnutrition risk with NDE has a positive effect on many factors, such as reduction in NRS score and correct selection of feeding path.

Keywords: Nutritional support team, nutritional support, malnutrition

OP-36

Evaluation of the Effectiveness of Applied Training for Nurses on Nursing Practices in Pediatric Nutrition

Derya Suluhan[1], Kezban Akçay[2], Melek Güneş[3], Hasibe Kazancı[2], Birsel Küçük Ersan[3], Zarife Kuloğlu[3], Kubilay Demirağ[4], Kutay Demirkan[5], Burcu Kelleci[5], Dilek Yıldız[1], Nevra Koç[6]
[1]Health Sciences University Gülhane Faculty of Nursing, Ankara, Turkey
[2]Hacettepe University Adult Hospital, Ankara, Turkey
[3]Ankara University School of Medicine Hospital, Ankara, Turkey
[4]Ege University School of Medicine Hospital, İzmir, Turkey
[5]Hacettepe University Faculty of Pharmacy, Ankara, Turkey
[6]Ankara Peidatrics Hematology-Oncology Training and Research Hospital, Ankara, Turkey

Objective: The nurse, a member of the clinical nutrition support team, plays an active role in many stages, such as safely prepare, application, store, monitoring of the complications of treatment, and education of the patient. For this reason, nurses should have current knowledge and skills about nursing practices for patients with nutritional therapy. The aim of the present study was to evaluate the effectiveness of applied training on nursing practices in pediatric nutrition to nurses.

Methods: The sample of the study consisted of 69 nurses who volunteered to participate in the study. The training includes four theoretical presentations on the importance of malnutrition, evaluation of nutritional status, nursing practices in enteral and parenteral nutrition, and pediatric nutrition products and two practical training for care/maintenance of access routes for enteral and parenteral nutrition support. Demonstration method was used for practical training. The theoretical and practical training was performed in 270 h on the same day. The pre-test (20 questions) and the post-test (20 questions) were used by the researchers to evaluate the effectiveness of the training. SPSS 21 package program was used for data analysis.

Results: The mean age of the participants was 33.16±7.85 (min=21, max=48) years, 87% (n=60) of the nurses were registered nurses, and 73.9% (n=51) of the nurses did not attend any previous training. The mean of pre-test total score of the participants was 70.51±11.63, and the mean of post-test total score was 81.67±9.02. There was a statistically significant difference between mean of pre-test total score and mean of post-test total score ($p<0.005$). There was a statistically significant difference between mean of pre-test total score and mean of post-test total score ($p<0.005$). There was no statistically significant difference between mean of pre-test total score averages depending on the situation of previous training ($p>0.005$); there was a statistically significant difference between mean of post-test total scores ($p<0.005$).

Conclusion: It was found that the applied training about nursing practices in pediatric nutrition conducted toward pediatric nurses was effective in nursing practices in pediatric nutrition, and that the knowledge levels of nurses increased significantly.

OP-37

Evaluation of the Nutritional and Health Status of Adult Individuals with Functional Constipation

Cansu Azizoğlu, Ezgi Ertal, Emre Manisalı, Fatma Çelik
Department of Nutrition and Dietetics, Biruni University, İstanbul, Turkey

Objective: Constipation is an important health problem that adversely affects the quality of life of individuals and increases the rate of referral to health units. While defecation 3 times a day and 3 times a week is considered normal, the less frequent frequency of defecation leads to constipation. Constipation is a problem that people hide from time to time because they are embarrassed and often do not notice its seriousness. The aim of the present study was to evaluate the health and nutritional status of students with complaints of constipation.

Methods: The study was conducted with 60 students aged 21-24 who studied at a foundation university. The study was conducted with the voluntary consent of the participants and the approval of Biruni University Ethics Committee (decision no. 2018/16-08). Data were collected by using the data collection form, Constipation Severity Scale (CSS), and Constipation Quality of Life Scale (CQLS). In addition, 24-hour food consumption records and food frequencies of the participants were obtained, and data were compared with the daily intake levels recommended in the TBSA report. Nutritional Information System (BeBis) was used to evaluate food consumption records. Data were analyzed by SPSS 18.0 statistical program.

Results: The average BMI of the participants was 24.69 kg/m^2. According to data obtained from food consumption records, the average energy of male students is 1999.1±397.5 kcal/day, carbohydrate 208.5±48.6 g/day, protein 87.66±23.2 g/day, and fat 88.4±23.8 g/day. The average energy of female students is 1457.3±323.5 kcal/day, carbohydrate 149.7±41.6 g/day, protein 60.6±17.6 g/day, and fat 66.9±19.4 g/day. According to the data obtained, the relationship between gender and main meal skipping status was found to be statistically significant ($p<0.05$).

Conclusion: According to TBSA data, daily average energy purchases of female and male students are below the recommended level (2180 kcal/day and 2850 kcal/day, respectively). As a result of the study, it was found that fast food consumption, insufficient fruit and vegetable consumption, and main meal skipping affected constipation negatively. The importance of nutrition and lifestyle for functional constipation, which can affect the quality of life and affect the nutritional status, is supported by the present study.

OP-38

Problems in Accessing Target Calories in Intensive Care Unit: Prospective, Single Center, First Seven Days Follow-Up Results After Feeding

Sevda Onuk[1], Nurhayat Tuğra Özer[2], Nilgün Savaş[1], Serap Şahin[2], Gülşah Güneş Şahin[2], Hilal Sipahioğlu[1], Murat Sungur[1], Kürşat Gündoğan[1]
[1]Medical Intensive Care Unit, Erciyes University School of Medicine, Kayseri, Turkey
[2]Department of Clinical Nutrition, Erciyes University Institute of Health Sciences, Kayseri, Turkey

Objective: Enteral nutrition reduces morbidity and mortality in critical patients. Enteral nutrition has some problems reaching the target calories. The aim of this study was to determine these problems during enteral nutrition in acute period.

Methods: This study was prospective in Erciyes University Medical Intensive Care Unit. The study was carried out in the first 72 hours after admission, and the patients were 18 years and older who were fed enteral for 48 hours and above.

Results: In this study 122 patients were included in the study. The mean age was 59±19 years. The most common causes of hospitalization in intensive care were respiratory failure (34%) and neurological diseases (20%). The mean Apache II score was 22±7. Mean nutric score was 5±2. Nutrition route of patients were 74% by nasoduodenal and 16% by nasogastric route. The target caloric requirement of the patients was 1805±308 kcal/day. Patients received calories were founded 900±374, 1368±637, 1432±645 and 1420±603 kcal/day on 1, 4, 6 and 7 days respectively. Enteral nutrition was interrupted 323 times during intensive care units. The most common causes and durations.

Conclusion: As a result of this study, malnutrition risk was found to be high in patients with intensive care unit followed by enteral nutrition. The calculated target calories were reached at a maximum of 79.3% on the sixth day. The biggest obstacle to achieving target calories was found as a daily radiological procedure.

Keywords: Enteral nutrition, intensive care, target calories, critical illness, interruption

OP-39

Physicians' Attitudes Toward Drug-Induced Nutrition Disorders

Nadir Yalçın[1], Burcu Kelleci Çakır[1], Aygin Bayraktar Ekincioğlu[1], Kutay Demirkan[1], Meltem Gülhan Halil[2], Osman Abbasoğlu[3]
[1]Department of Clinical Pharmacy, Hacettepe University Faculty of Pharmacy, Ankara, Turkey
[2]Division of Geriatrics, Hacettepe University School of Medicine, Ankara, Turkey
[3]Department of General Surgery, Hacettepe University School of Medicine, Ankara, Turkey

Objective: Drugs can cause drug-induced malnutrition via affecting the intake, digestion, absorption, storage, metabolism, and elimination of nutrients. The aim of the present study was to evaluate the attitudes of physicians against drugs that might cause malnutrition/insufficient nutrition, sarcopenia/weight loss, and micronutrient disorder.

Methods: A questionnaire consisting of 14 questions that were prepared using triple Likert scale (I agree, I am indecisive, and I do not agree) was applied to clinicians who attended our "Drug Based Nutrition Disorders" seminar held on January 15, 2019 within the scope of the Adult Nutrition Support Unit Training Program. Consent was obtained on a voluntary basis.

Results: A total of 30 physicians participated in the survey. The median age of the physicians was 34 (23–59) years. The survey included 19 (63.3%) women. While 24 (80%) of the physicians are specialists, 6 (20%) are assistants, and the median period of service is 13 (1–36) years. The distribution of the services of the physicians was as follows: intensive care unit (n=11, 36.7%), pediatric gastroenterology (n=9, 30%), geriatrics (n=7, 23.3%), and general surgery (n=3, 10%). The most common answer for "I disagree" was for "drugs that cause no taste or metallic/bitter taste affect the nutritional status of the patient" (6.67%). The questions on which the clinicians were most hesitant at were "Vitamin B12 levels should be monitored in patients using metformin" (23.33%) and "Vitamin D levels should be monitored in patients using phenytoin" (23.33%). After the seminar, there was a statistically significant change in the response (p=0.011 and p=0.008, respectively).

Conclusion: Although the awareness of physicians about drug-induced malnutrition is generally high, it has been observed that the trainings contributed to improve the knowledge level. There is a need for studies evaluating the reflection on practice that has been theoretically determined.

Keywords: Physician, drug, clinical pharmacist, malnutrition

OP-40

Evaluation of the Online News Related with Nutrition

Özlem Eskil Çiçek, Reyyan Çiftçi, Pınar Akbudak Yıldırım
Health Sciences University Bakırköy Prof. Dr. Mazhar Osman Psychiatric Training and Research Hospital, İstanbul, Turkey

Objective: News-related health topics have vital importance to generalize health policies and to increase the awareness of the public. Online news is used by people who are in search of current information about nutrition. To evaluate the content analysis of online news about diet and nutrition.

Methods: The news was searched using the keywords "nutrition" and "diet" between January 2019 and February 2019. Ninety-one news items were determined using the keyword "nutrition" or "diet" by systematic random sampling. The content assessment is designated by literature survey. Contents of news were evaluated by two dieticians for specialist opinion and scientific matter.

Results: Of 91 news items, 57 (62.6%) were detected containing specialist opinion, 34 (37.4%) without specialist opinion, 44 (77.2%) with specialist opinion received opinion from dieticians, and 13 (12.8%) received opinion from physicians. Twenty-seven (29.7%) news items guide people to a particular diet or slimming method, and 10 (11%) have a recommendation that may cause potential risk to health.

Conclusion: Academicians, health politicians, and related health professionals should work with the media to inform the public and to create awareness. Further research is needed to determine how the news about nutrition and diet affects public opinion.

OP-41

Effect of Using Wound Specialized Oral Enteral Supplement on Nutritional Status in Patients with Diabetic Foot Ulcer

Duygu Pekmezci[1], Ömer Arda Çetinkaya[2], Aslı Akyol Mutlu[3], Hakan Uncu[2]
[1]Diet and Nutrition Unit, Ankara University School of Medicine Cebeci Hospital, Ankara, Turkey
[2]Department of General Surgery, Ankara University School of Medicine, Ankara, Turkey
[3]Department of Nutrition and Dietetics, Hacettepe University Faculty of Health Sciences, Ankara, Turkey

Objective: Diabetic foot ulcer (DFU) is one of the most serious long-term complications in diabetes. DFU causes lower extremity amputations and raises mortality and morbidity levels. Nutritional status has a very important influence on patients with DFU wound formation and healing; however, it is rarely taken into consideration in conservative therapy. The aim of the present study was to investigate the effect of using wound specialized oral enteral nutrition supplement on food intake and blood parameters related with nutritional status in hospitalized patients with diabetes diagnosed with DFU.

Methods: This research was conducted on 25 hospitalized patients with DFU at the Department of General Surgery of Medical School in Ankara University. Twelve patients included in control group followed only diet therapy, and 13 patients included in intervention group followed diet therapy with oral enteral supplement. Oral enteral supplement consists of 7.4 g arginine, 7.4 g glutamine, and 1.3 g hydroxy methyl butyrate. Enteral supplement was given to patients twice daily as a complementary to their energy and protein requirements. Patients' daily food consumption records were followed up for 4 weeks. Energy and nutrient amounts were calculated by BEBIS software. Patients' blood parameters were obtained from hospital's data processing system. Statistical distribution of data was analyzed using SPSS 16.0 program.

Results: Control and intervention groups energy intakes were 1639.4±290.9 kcal and 1852.1±256.0 kcal/day, respectively ($p=0.064$). Daily protein intake was 78.7±20.6 g/day in the control group and 107.9±16.8 g/day in the intervention group ($p<0.05$). There was no statistically significant difference between other nutrients (except calcium ($p<0.05$)). Albumin levels after the diet therapy were found to be significantly higher in the intervention group (before 2.88±0.45 g/dL and after 3.56±0.57 g/dL) than in the control group (before 3.26±0.58 g/dL and after 3.27±0.96 g/dL) ($p<0.05$).

Conclusion: Wound specialized oral enteral supplement usage would elevate albumin levels by increasing protein intake. Thus, raised blood levels of albumin may contribute to the wound healing process of DFUs.

Keywords: Nutrition, diabetic foot ulcers, medical nutritional therapy

OP-42

Prevalence of Pressure Ulcers of Patients in Palliative Care Service and Evaluating the Risk Factors

Özlem Özpak Akkuş, Özgül Gök Turgut, Dilek Hamdanoğulları
Mersin State Training and Research Hospital, Mersin, Turkey

Objective: Pressure sores are a problem that prolongs hospitalization and increases mortality and treatment costs. The risk factors for development of pressure ulcers include local effects, such as pressure, friction, and moisture, as well as nutritional status, age, edema/hypoalbuminemia, immobility, and contamination of the skin with urine and feces. This was a retrospective study planned between October 2018 and January 2019 in Mersin City Training and Research Hospital to evaluate the prevalence of pressure ulcers of patients in Palliative Care Service and the risk factors that can be effective in developing pressure ulcers.

Methods: General characteristics of the patients, anthropometric measurements (height, weight, and body mass index (BMI)), and some biochemical symptoms were examined retrospectively from the hospital data system. To evaluate the prevalence of pressure ulcers of patients and risk factors, Braden Risk Evaluation Scale was implemented retrospectively. All data were evaluated using SPSS 17.0 statistical program for Windows.

Results: A total of 120 patients were included in the study. Patients were divided into two groups as with the pressure ulcer and without the pressure ulcer. It was found that age and BRDS average of patients with pressure ulcer were higher than those of patients without pressure ulcer (74.6±12.6 years, 12.9±2.3 years, and 68.5±16.6 years, respectively, 8.0±2.1), but their albumin average was lower (2.8±0.5 g/dl and 3.0±0.5 g/dl, respectively) Variations were statistically significant ($p<0.05$). Their length of hospitalization, scores of NRS-2002, and BMI averages were not statistically significant between the groups ($p>0.05$). In the group who had pressure ulcer, the number of patients who reached the aimed value of energy and protein (21.3% and 10.6%, respectively) was less than those who cannot reach (78.7% and 89.4%, respectively), the number of patients with NRS-2002 score ≥3 (93.6%) was found to be higher than those with <3 (6.4%), and BRDS score and the number of patients in the high-risk group (63.8%) were found to be higher than those in the middle-risk group (36.2%) ($p<0.05$).

Conclusion: In conclusion, further age, low BRDS score, malnutrition, and inadequate nutrition situations are the most important factors of developing pressure ulcer. Rehabilitating the nutritional situations and enabling the integrity of the skin are important in preventing pressure ulcer. Depending on the relationship between pressure ulcer and nourishment, while preventing and treating pressure ulcer, nutritional tracking should be important and evaluated with care.

OP-43

The Effect of Body Mass Index on Critical Patient's Nutritional Management

İsmail Gömceli, Ayhan Hilmi Çekin, Orbay Harmandar, Nilhan Sesli Orman, Filiz Özcan, Melike Yıldız, Mihrican Şimşek, Mediha Gündoğdu, Burçin Turan, Gülhan Ülküdür
Clinic Nutrition Unit, Health Sciences University Antalya Training and Research Hospital, Antalya, Turkey

Objective: Obesity and malnutrition are associated with various mechanical, metabolic, and physiological changes affecting health outcomes and health care services. At the same time, it is difficult to accurately calculate the energy needs and make nutritional management of these patients due to the large changes in body components. Difficulties caused by metabolic variations in nutritional management during malnutrition or obese critical patients and the risk factors affecting prognosis in these patient groups have been expressed in many studies. In conclusion, it is stated that these factors negatively affect the ability to cope with metabolic and physiological stress in critically ill patients. The aim of the present study was to evaluate how malnutrition and obesity affect the critical patient prognosis.

Methods: A total of 630 patients were evaluated in intensive care clinics. Body mass indexes (BMIs) were measured by anthropometric measurements in patients with unconsciousness and by being asked or weighed in conscious patients. BMI was classified into three groups considering the disproportion in the distribution of patients: <18.5 kg/m^2, group I; 18.5–29.9 kg/m^2, group II; and ≥30 kg/m^2, group III. Corrected weights were used to determine the energy needs of patients. Considering especially refeeding syndrome in patients with severe malnutrition, the target calories and protein levels were reached in a long time. Intensive care and hospital stay, prealbumin/CRP levels, and mortality were evaluated.

Results: There was no significant difference in the mortality, intensive and hospitalization days, and prealbumin-CRP relationship between 633 patients in three groups.

Conclusion: Recent studies report that despite the chronic inflammatory and adverse effects of fat cells on obesity, they may mediate short-term beneficial functions in response to sepsis or stress. Adipose tissue is considered not only as a depot for excess energy but also as a functional organ capable of altering metabolism and secreting immune-modulating chemokines. Despite the paradoxical positive effects of obesity in critically ill patients, BMI was not found to be an effective factor in the critical disease prognosis in our study. Perhaps this result may be due to the fact that the nutritional treatment of our patients is well planned.

OP-44

Statistical Comparison of the Malnutrition Universal Screening Tool and Nutritional Risk Screening–2002 Test in Patients Aged 20–90 Years

Dilek Doğan[1], Selim Gündüz[2], Aydan Özçelik[1], Canan Zengin[1], Ezgi Bayraktar[1]
[1]Department of Nutrition and Diet, Adana State Training and Research Hospital, Adana, Turkey
[2]Adana Science and Technology University, Faculty of Management, Adana, Turkey

Objective: Nutritional Risk Screening-2002 (NRS-2002) is a method developed by the European Society of Parenteral Enteral Nutrition to determine the risk of malnutrition and the presence of malnutrition in hospitalized patients. The aim of the present study was to compare the results of Malnutrition Universal Screening Tool (MUST) and NRS-2002, which are widely used in malnutrition risk assessment of these particular patients.

Methods: The study was performed in Adana City Training and Research Hospital, Cardiovascular Surgery and General Surgery clinics with a total of 220 patients. The age of these patients was between 20 and 90 years. There were 96 female patients. The questionnaire form including anthropometric measurements and the findings of NRS-2002 and MUST method were tested and compared by the use of Kappa with regard to the distribution of nutritional status of the patients. The results of both methods were analyzed by Mann-Whitney and Kruskal-Wallis tests.

Results: The mean age of the patients was 53.75±1.38 years, and the average body mass index (BMI) was 25.64±0.40 kg/m^2. The mean age of the female patients was 53.09±1.65 years, and the average body mass index was 28.86±0.62 kg/m^2 in 45.2% (n=56) of females. According to the evaluation criterion that was described by the World Health Organization, BMI was normal in 26% (n=25) of females. In our study, 4% (n=5) of males and 1% (n=1) of females were found to have lower BMI (<18.5 kg/m^2). According to the NRS-2002 malnutrition screening test, the risk

of malnutrition was detected in 22.3% (n=49) of the patients. There was no any risk of feeding in 171 (77.7%) patients. According to the MA criteria, there was no significant risk of malnutrition in 132 (60%) patients. Moderate and high risks were detected in 20.9% (n=46) and in 19.1% (n=42) of the patients, respectively. There was no statistically significant difference between NRS-2002 and MUST with regard to the distribution of nutritional status of individuals (K=0.039, p=0.077).

Conclusion: According to our results, there was a positive correlation between NRS-2002 and MUST method that was used in these particular cases. Both methods may be used to determine malnutrition.

Keywords: Malnutrition, MUST, NRS-2002, screening method

OP-45

Frailty and Related Factors in Elderly Patients with Parkinson's

Merve Yılmaz[1], Dilek Seyidoğlu[2], Ahmet Acarer[2]
[1]Department of Internal Medicine, Ege University School of Medicine, İzmir, Turkey
[2]Department of Neurology, Ege University School of Medicine, İzmir, Turkey

Objective: Parkinson's disease is an age-related neurological disease. Its prevalence is tenfold higher in the age range of 50–80 years. Frailty is defined as a decrease in physiological reserve in stress response and in daily activities because of the decline of organ and system functions in association with biological aging. These two conditions have completely different pathophysiology. They can be confused because of their effects on functional capacities. While patients with Parkinson's may be mistakenly defined as frail, the frailty of patients with Parkinson's may be associated with inadequate therapeutic control. Therefore, it is important to identify the frailty in patients with Parkinson's and to investigate the factors related to frailty. There are not enough studies in this area in the literature. This study aimed to investigate the prevalence of frailty and the relationship between frailty and depression, cognitive state, malnutrition, and falling in the elderly patients with Parkinson's.

Methods: Patients with Parkinson's disease over the age of 60 years, who were admitted to the Outpatient Clinic of Neurology between June 2017 and December 2018, were included in the study. According to the Clinical Frailty Scale, the frailty of the patients was defined as non-frail, moderately frail, and severely frail. Malnutrition status of the patients was determined through MNA, depression status through geriatric depression scale (GDS), and cognitive status through Standardized Mini Mental Test (SMMT). The patients were asked whether they had a history of falling in the last year. Data were analyzed by using SPSS 15.

Results: The mean age of the 97 patients included in the study was 69.1 years; and 58.8% were male. While severe frailty was observed at the rate of 8.2%, the rate of moderate frailty was 41.2%. A total of 45.4% of the participants had a risk of malnutrition. There was a statistically significant relationship between malnutrition and frailty (p=0.019). Female gender and age were found to be related to frailty (p<0.05). While 38.1% had a history of falling in the last one year, a significant relationship was found between frailty and falling (p<0.01). Of the patients, 33.3% were depressed according to GDS and 53.6% had mild dementia according to SMMT. There was no significant relationship between frailty and depression, but a significant relationship was found with SMMT (p=0.009).

Conclusion: Patients with Parkinson's disease have a high risk of malnutrition and moderate frailty. The elderly population and women constitute the risky groups in terms of frailty. Evaluation of patients from these aspects is important in terms of various poor clinical outcomes, particularly fallings.

Keywords: Dementia, depression, frailty, parkinson, malnutrition

OP-46

Effect of Nutritional Status on Mortality and Morbidity in Patients with GIS Cancer

Halil Durmaz, Hasan Aydede, Yamaç Erhan, Eray Kara
Department of General Surgery, Manisa Celal Bayar University School of Medicine, Manisa, Turkey

Objective: Mortality and morbidity rates are associated with preoperative nutritional status in oncologic patients. Preoperative nutritional support would enhance the surgical success in those with malnutritional risk. The aim of the current study was to evaluate and analyze patients with GIS cancer by various nutritional screening methods preoperatively.

Methods: A total of 396 patients (244 male and 152 female) with a mean age of 57.3 years were enrolled in the period between August 2013 and January 2019. All patients were analyzed for total protein and albumin as well with other biochemical parameters and also screened by NRS2002 and SGE scales for preoperative malnutritional risk. 25 kcal/kg/d macro and micronutrient support were given for preoperative 5 days and included to ERAS protocol as standard procedure. Statistical analyses were done using SPSS 11.0 program.

Results: There were 289 colon, rectum, and anal, 88 gastric, 12 esophagus, and 7 pancreas cancers. NRSR2002 demonstrated 22.8% mild, 73.4% moderate, and 3.8% high risk of malnutrition. SGE demonstrated the patients as normal (19.4%), moderately (56.7%), and severely (24%) malnourished. NRS2002 and SDE did not show any statistical difference for mortality (p>0.05). However, total protein levels were statistically low (83.3%) and normal or high (16.7%) in mortal patients (p<0.05). Whereas albumin levels were low in 33.3% of mortal patients, malnutrition scores were mild (25%) and moderate to severe (41.7%) in those patients (p<0.05). While albumin levels did not statistically correlate to morbidity (p>0.05), but low total protein levels did (p<0.05).

Conclusion: NRS2002 and SGE were well-known screening tools for malnutrition in oncologic patients. Total protein and albumin levels were found to be good parameters to determine the risk index of malnutrition in our study.

OP-47

Evaluation of Albumin, Prealbumin, and C-Reactive Protein Levels in Patients in the Intensive Care Unit

Mustafa Özgür Cırık[1], Güler Eraslan Doğanay[1], Meriç Ünver[1], Aytül Kılıç[2], Ali Alagöz[3]
[1]Department of Intensive Care, Health Sciences University, Atatürk Chest Disease and Chest Surgery Training and Research Hospital, Ankara, Turkey
[2]Department of Nutrition and Dietetics, Health Sciences University, Atatürk Chest Disease and Chest Surgery Training and Research Hospital, Ankara, Turkey
[3]Department of Anesthesiology and Reanimation, Health Sciences University, Atatürk Chest Disease and Chest Surgery Training and Research Hospital, Ankara, Turkey

Objective: Inflammatory factors are widely used in the assessment of nutritional status. The aim of the present study was to evaluate 102 patients with chronic obstructive pulmonary disease (COPD) who were admitted to the intensive care unit (ICU) because of type 2 respiratory failure.

Methods: Demographic data, albumin, prealbumin, and C-reactive protein (CRP) values of patients with COPD who were accepted in the ICU were recorded. Patients with albumin levels <3.5 mg/dl and prealbumin levels <16 mg/dl were considered to have low values, whereas those with a CRP level >5 mg/L were recorded as high values. Acute Physiology and Chronic Health Evaluation (APACHE) II scores, duration of ICU stay, duration of mechanical ventilation, and 28-day mortality were recorded.

Results: Of the 102 patients, there were 66 (64%) male and 36 (36%) female patients. The mean age of the patients was 69.79±11.64 years, APACHE II scores were 21.4±6.34, and the mean duration of ICU was 5.91 (1–31). A total of 41 (40.1%) patients required mechanical ventilation (MV), with a mean duration of MV of 5.70 (1–31)/day. CRP levels of patients were 6.16±7.27 mg/l, and albumin levels were 3.27±0.51 mg/dl. Prealbumin levels were measured in 74 patients, and the mean value was 13.60±5.43. The 28-day mortality rate of 102 patients was 29% (n=30), and the CRP level was >5 mg/l in 17 (56%) patients. While albumin levels were <3.5 mg/dl in 90% (n=27) of the patients with mortality, 23 had prealbumin levels, and 18 (69%) were <16 mg/dl. Prealbumin levels were measured in 50 of 72 patients who had no mortality within 28 days, and prealbumin level was found to be 16 mg/dl in 18 (36%) and <16 mg/dl in 32 (64%).

Conclusion: Nutritional disorders are more common in patients admitted to our hospital. In our study, we found that inflammatory mediators in patients with COPD were significantly above or below the normal values. Especially low levels of albumin show that these patients have an ongoing nutritional status disorder. We suggest that detailed evaluation of the nutritional status in these critically ill patients will contribute significantly to prognosis.

Keywords: Albumin, prealbumin, C-reactive protein

OP-48

Relationship Between Sarcopenia and Urinary Incontinence

Tuğba Erdoğan[1], Gülistan Bahat[1], Cihan Kılıç[1], Pınar Küçükdağlı[1], Meryem Merve Ören[2], Onur Erdoğan[3], Mehmet Akif Karan[1]
[1]Department of Internal Medicine, Division of Geriatrics, İstanbul University İstanbul School of Medicine, İstanbul, Turkey
[2]Department of Public Health, İstanbul University İstanbul School of Medicine, İstanbul, Turkey
[3]Department of Cardiology, İstinye State Hospital, İstanbul, Turkey

Objective: Urinary incontinence (UI) and sarcopenia are common geriatric syndromes. They both increase the risk of falls and fractures in older adults. Identification of factors associated with UI is necessary to identify risky individuals, to take preventive measures, and to recognize commonly associated co-morbidities. We suggest that sarcopenia and/or its components may be associated with stress and urgency UI through decrease in muscle mass/strength. The aim of the present study was to investigate the relationship between UI (stress and/or urgency) and sarcopenia.

Methods: Female older adults ≥60 years who applied to the geriatric outpatient clinic were analyzed cross-sectionally. Demographic data and clinical data, including presence of UI, UI types, fecal incontinence, and constipation, were obtained. Functional status was assessed by basic and instrumental activities of daily living (ADL and IADL), and nutritions by mini-nutritional assessment-short form (MNA-SF). Total muscle mass was measured by bioimpedance analysis and adjusted by three different methods (height^2, body mass index (BMI), or weight). Hand grip strength and walking speed were assessed. The factors found to be significantly associated with UI in univariate analysis were further evaluated by logistic regression analysis.

Results: A total of 802 female adults were included in the study. The prevalence of UI was 48.9%. The associated factors with the presence of UI were higher age and BMI, presence of fecal incontinence, constipation, lower activities of ADL and IADL scores, lower grip strength, lower skeletal muscle mass adjusted by weight and BMI, and presence of sarcopenia adjusted by weight and BMI in univariate analyses. In regression analysis, independent factors related with UI were presence of fecal incontinence, constipation, IADL dependency, low muscle mass adjusted by weight and BMI, and sarcopenia adjusted by weight.

Conclusion: The results of our study suggest that UI is independently associated with sarcopenia when muscle mass was adjusted by weight and also with presence of low muscle mass when muscle mass was adjusted by weight or BMI. Sarcopenia and UI are related, and both increase the risk of falls and fracture. The primary aim should be the prevention of sarcopenia to decrease the risk of falls.

OP-49

Can Prognostic Nutritional Index Predict Mortality in Patients with an Anastomotic Leak?

Sabri Özden, Sadettin Er, Erdinç Çetinkaya, Umut Fırat Turan, Mesut Tez
Ankara Numune Training and Research Hospital, Ankara, Turkey

Objective: Colorectal cancer (CRC) is the third most prevalent cancer in Turkey and worldwide, and its primary treatment is surgery. One of the important causes of mortality in CRC surgery is the anastomotic leak. The prognostic nutritional index (PNI) can be easily calculated by the ratio of serum albumin concentration to total lymphocyte count. This is also an important indicator of anastomotic leak, postoperative complications, and prognosis in patients with CRC. The aim of the present study was to evaluate the effect of PNI on predicting morbidity and mortality in patients who were operated for CRC and developed an anastomotic leak.

Methods: The study included 34 patients with an anastomotic leak from 660 patients who were operated in our clinic between July 2010 and August 2017 for CRC. Patients' demographic characteristics, tumor localization, stage, the urgency of operation, presence of ostomy, complications, preoperative serum albumin concentration, and lymphocyte and monocyte counts were obtained by scanning electronic medical records retrospectively.

Results: Of the 34 patients, 12 (35.3%) were female, and 22 (64.7%) were male. The mean age of the patients was 58.3±15.3 (26-83) years. The mean preoperative PNI was 43.6±7.8 (23-60). Complications were classified according to the Clavien-Dindo Classification: II and IIIa were present in 13 (38.2%) patients, IIIb in 14 (41.2) patients, and V in 7 (20.2%) patients. The number of patients who developed mortality was 7 (20.2%). Multivariate analysis revealed that PNI was not statistically significant in distinguishing complications (p=0.854) and determining mortality (p>0.05). ROC analysis showed that >65 years old was statistically significant (p=0.039, AUC: 0.757, CI: 0.525-0.988). Mortality was observed in 5 out of 14 (35.7%) patients over the age of 65, and only 2 out of 20 (65%) under 65 years old developed mortality. No statistically significant difference was found in other parameters.

Conclusion: Although many previous studies have reported that PNI is effective in predicting prognosis, complications, and mortality in many cancers and CRCs, in our study including patients with anastomotic leak after CRC surgery, it was determined that PNI had no effect on predicting mortality and morbidity. On the other hand, mortality increased significantly in patients >65 years old. This may indicate that anastomotic leak should be managed more carefully in the older age group.

Keywords: Prognostic nutritional index, colorectal cancer, anastomotic leak, Clavien-Dindo classification

OP-50

Caregivers' Opinions, Attitudes, and Experiences Before and After Gastrostomy Procedure in Children: A Systematic Review of Quantitative Studies

Derya Suluhan[1], Dilek Yıldız[1], Jennifer Deberg[2], Berna Eren Fidancı[1]
[1]Health Sciences University, Gülhane School of Nursing, İstanbul, Turkey
[2]Hardin Library for the Health Sciences, Iowa City, USA

Objective: The aim of this systematic review was to identify the opinions, attitudes, and experiences of the caregivers of pediatric patients related with G-tube feeding to raise consciousness about caregivers' need for support from healthcare providers and to increase the positive effects of G-tube feeding on the lives of children and their caregivers before and after gastrostomy procedure.

Methods: We reviewed quantitative studies in English that deal with opinions, experiences, and attitudes of caregivers before and after children's gastrostomy procedure. In consultation with a medical librarian, we reviewed quantitative studies on our subject that were published up to May 10, 2015 by using five electronic databases, namely, CINAHL, PubMed, PsycINFO, Scopus, and Ovid Cochrane database of systematic reviews for quantitative studies. The quality of reviewed studies was evaluated by using JBI Critical Appraisal Checklist for Observational Studies.

Results: We identified 1897 citations, and only eight studies from the citation list met the inclusion criteria. Five studies collected data after G-tube placement, whereas the remaining three studies collected data during both the preprocedural and postprocedural periods. In six of these studies, outcomes were assessed by using objective criteria. None of the studies used questionnaires, whose reliability and validity were assessed for the country that the studies were conducted. Caregivers in five of these studies expressed positive outcomes, such as decreased stress levels, increased satisfaction for the children and their parents, and improvements in the quality of life and the communication between the children and their parents. Three studies found both positive and negative impacts of G-tube placement on the lives of children and caregivers. Factors, such as difficulty in reaching a final decision on G-tube placement, inadequate information provided by healthcare professionals, restricted mobility, stress related with G-tube feeding, insufficient postoperative education program, and fear of unintentional loss of the gastrostomy button, were expressed as negative outcomes of G-tube feeding.

Conclusion: Although some of the reviewed studies revealed the positive impacts of G-tube feeding on the lives of the pediatric patients and their caregivers, the outcomes were sometimes both positive and negative. Owing to this reason, healthcare providers should inform pediatric patients and their caregivers about all possible positive and negative outcomes of the G-tube placement so that caregivers may decide on the gastrostomy procedure.

OP-51

One Year Monitorization Results of Patients who Took Clinical Nutrition Treatment

Burcu Kelleci[1], Nadir Yalçın[1], Olgun Deniz[2], Şermin Ataç[3], Fatma Tamer[3], Y. Nilgün Ölmez[3], Kezban Akçay[3], Kutay Demirkan[1], Meltem Halil[2], Osman Abbasoğlu[4]
[1]Department of Clinical Pharmacy, Hacettepe University Faculty of Pharmacy, Ankara, Turkey
[2]Department of Internal Disease, Division of Geriatric Medicine, Hacettepe University School of Medicine, Ankara, Turkey
[3]Hacettepe University Hospitals, Nutritional Support Team, Ankara, Turkey
[4]Department of General Surgery, Hacettepe University School of Medicine, Ankara, Turkey

Objective: Knowing the current nutritional treatment processes is valuable for organizations to create protocols. The aim of the present study was to evaluate the demographic data and treatment processes of patients who were followed up by the nutrition support team (NST) in one university hospital during 2018.

Methods: All patients who were admitted to a university hospital and followed up by the NST during 2018 were included in the study. Patients' data (demographic, laboratory findings, and comorbidities) were prospectively recorded by the NST and analyzed retrospectively after the follow-up process finished. The analyses were performed using SPSS version 23.

Results: A total of 681 patients were included in the study. Of the 681 patients, 411 (60.4%) received parenteral (PN), 246 (36.1%) enteral (EN), and 24 (3.5%) supplemental PN nutrition treatment. The median age of the patients was 63 (18–96) years, the median time to nutritional therapy was 0 (0–15) days, and the median follow-up period was 10 (1–144) days. Mostly follow-up ended because of adequate oral intake (42.9%). The most common access route was the nasogastric (166, 61.5%) route in EN and the peripheral route in PN (266, 61.1%). Only 54.3% of all patients reached 80%–100% of the targeted energy. It was found that 61.3% of patients who received PN treatment and reached the targeted energy have central access route ($p<0.001$). Reaching targets according to the access route.

Conclusion: Nearly half of the patients could not reach their energy targets. In patients who took PN treatment, the targets are less reachable through the peripheral access route. With the supplemental PN, the rate of reaching nutritional goals increases.

OP-52

Effects of Different Gastric Residual Volume Thresholds on Mortality and Morbidity in Intensive Care Patients

Esra Çankaya[1], Sertaç Çankaya[2], Ahmet Oğuzhan Küçük[3], Hülya Ulusoy[3]
[1]Department of Anesthesiology and Reanimation, Karadeniz Technical University, Trabzon, Turkey
[2]Ankara Provincial Directorate of Health, Directorate of Public Health Services, Ankara, Turkey
[3]Department of Intensive Care Medicine, Karadeniz Technical University, Trabzon, Turkey

Objective: Nutrition is accepted as being one of the most significant controllable causes that can have an impact on morbidity and mortality. Clinical and experimental studies have demonstrated the many benefits of enteral nutrition when compared with parenteral nutrition. It is possible for gastric motility disorder to cause complications, such as vomiting, infection, and intensive care mortality. Current guidelines have not reached a consensus on the gastric residual volume (GRV) threshold and follow-up frequency. The objective of the present study was to determine the impacts of GRV thresholds of 150 mL and 250 mL on target calorie and protein reach and to determine gastric intolerance in intensive care patients receiving enteral nutrition.

Methods: This was a clinical retrospective study conducted at Karadeniz Technical University, Faculty of Medicine, Intensive Care Unit. In the study, patients who received enteral nutrition in the intensive care unit between January 1, 2008 and December 31, 2017 were examined for 14 days commencing from the initial date of hospitalization. The patients were divided into two groups: 150 mL (Group 1) and 250 mL (Group 2), depending on the GRV threshold and their calorie values, protein values, and occurrence of gastric intolerance, and also morbidity and mortality factors were examined.

Results: The gender, weight, body mass index, baseline laboratory values, septic shock, intensive care and day 28 mortality, type of enteral product used, occurrence of gastric intolerance (diarrhea, constipation, and vomiting/regurgitation), use of prokinetic drugs, and Acute Physiology and Chronic Health Evaluation II and Sequential Organ Failure Assessment values were all consistent in patients who were enrolled in the study. When the patients' rates of reaching the target levels of calorie and protein were compared, significantly higher rates were found in Group 2 (250 mL) ($p<0.001$ and $p<0.001$, respectively). At the end of the 14-day follow-up period, the total calorie and protein deficits in Group 1 were detected to be significantly higher ($p<0.001$ and $p<0.001$, respectively). Consistent with these results, the 10-day albumin values were significantly higher in Group 2 ($p=0.009$).

Conclusion: As there were less breaks in nutrition in patients whose GRV threshold was 250 ml (Group 2), the percentages for achieving target calorie and protein levels were found to be significantly higher, and no significant difference was observed with regard to the incidence of a gastric intolerance occurrence.

Keywords: Enteral nutrition, gastric residual volume, intensive care unit, protein

OP-53

Determination of Growth and Dietary Adequacy Status for Patients with Celiac Disease

Neslihan Eksi Bozbulut[1], Rukiye Bozbulut[2], Eda Köksal[3], Buket Dalgıç[1]
[1]Department of Pediatric Gastroenterology Hepatology and Nutrition, Gazi University School of Medicine, Ankara, Turkey
[2]Department of Nutrition and Diet, Gazi University School of Medicine, Ankara, Turkey
[3]Department of Nutrition and Dietetics, Gazi University School of Medicine, Ankara, Turkey

Objective: Gluten-free diet (GFD) is the only accepted treatment for celiac disease (CD). The aim of the present study was to determine dietary adequacy and growth status in children with CD on GFD and to compare these parameters with healthy children's diets.

Methods: This was a case-control observational study conducted at Gazi University Department of Pediatric Gastroenterology, Turkey from 2015 to 2018. Inclusion criteria were children with a biopsy-proven diagnosis of CD, on a GFD at least 1 year of follow-up, who had negative tissue transglutaminase antibody result, and who had no accompanying chronic disease. Age-matched healthy control group was recruited. Three-day food records with at least 1 day on weekend and anthropometric measurements (body weight and height) were collected from both groups by a trained dietitian. Height-for-age Z-score (HAZ), weight-for-age Z-score (WAZ), body mass index Z score (BAZ), and body mass index (BMI) for age values were calculated by the World Health Organization (WHO) Anthro/AnthroPlus program for assessment of growth status.

BEBIS). Mean adequacy ratio (MAR) was used for assessment for dietary adequacy status. Nutritional adequacy ratio (NAR) for 10 important nutrients (protein, vitamins A, E, and C, thiamine, folate, calcium, magnesium, iron, and zinc) for patients with CD was analyzed for MAR calculation.

Results: A total of 51 (17 boys and 34 girls) patients with CD aged between 3 and 17 (mean age 10.9±3.95) years old and 54 (26 boys and 28 girls) healthy individuals aged between 2 and 17 (mean age 11.6±3.21) years old were enrolled in the study ($p<0.05$). Median GFD duration was 31 (interquartile range 15-83) months for patients with CD. Fifty-nine percent of patients with CD had a short stature, and 11.8% had thinness. A statistically significant difference was found between the mean and the baseline values (±SD) of the CD and healthy groups. There was a statistically significant difference between the mean values of the HAZ, BAZ, and BMI values (±SD) of the CD and healthy control groups (HAZ −1.85±1.40, −0.25±0.77/BAZ −0.74±1.38, and 0.60±0.82/BMI 17.1±3.25, respectively; 19.5±3.47) ($p<0.001$). AlsoIn addition, we found that there was a statistically significant difference in the mean values of WAZ between <10 years of the CD (n=20) and healthy control (n=24) groups (−0.33±1.31 and 0.19±0.91, respectively) ($p<0.001$). We evaluated patients with CD daily energy and macronutrients intake from gluten-free products (bread, cake, flour, biscuits, and pasta). Daily energy intake was 20.2±7.87% of total energy. Macronutrient intake was 38.1±13.2% for carbohydrates, 20.5±9.47% for fiber, 4.0±2.10% for protein, and 3.7±2.70% for fat. When the dietary adequacy of both groups was compared, the MAR score of the celiac group (67.5±13.6%) was statistically significantly lower than that of the healthy group (81.6±11.66%) ($p<0.001$), although there was no statistical difference of daily energy intake adequacy (97.42±29.20%/104.8±15.92%) between the groups. A positive correlation was found between dietary adequacy and HAZ and BAZ results of all children (Pearson correlation, r: 0.286, p=0.003 and r: 0.346, p=0.000), but when evaluated separately as patient and control groups, the correlation result was not significant ($p>0.05$).

Conclusion: We determined adversely affected growth and lower dietary adequacy in our patients with CD. Therefore, patients with CD should be monitored frequently for dietary adequacy. An adequate and balanced diet pattern should be planned in these patients after diagnosis, and effective nutrition education should be provided to patients and families. On the other hand, disease-specific diet recipes should be developed to facilitate the adaptation of the patients to GFD. To prevent nutritional deficiencies, enrichment policies in gluten-free products should be developed.

Keywords: Celiac, nutrition, diet qualifications

OP-54

The Relationship of Hand Grip Strength with Malnutrition-Inflammation Score as an Assessment of Nutritional Status in Maintenance Hemodialysis Patients

Hasan Bakkal[1], Oğuzhan Sıtkı Dizdar[1], Koray Uludağ[2]
[1]Department of Internal Medicine, Health Sciences University Kayseri State Hospital, Kayseri, Turkey
[2]Department of Nephrology, Health Sciences University Kayseri State Hospital, Kayseri, Turkey

Objective: Protein-energy wasting is common in patients with end-stage renal disease on maintenance hemodialysis (HD) patients and is associated with increased morbidity and mortality and poor quality of life. Anthropometry assessment, nutritional screenings, biochemical parameters, and body composition measurement methods are used for early diagnosis of malnutrition. Hand grip strength (HGS) is related to nutritional assessment with malnutrition-inflammation score (MIS) and biochemical parameters; we investigated to verify the best cut-off point of the HGS, which predicted the value of MIS >5, which determines survival in both sexes.

Methods: This was a cross-sectional study including 132 maintenance HD patients (73 male, age 56±13.7 years) in the HD unit of Kayseri Education Research Hospital. Biochemical parameters including albumin, protein, creatinine, blood urea nitrogen, total cholesterol, C-reactive protein, and ferritin of the last 3 months were collected, respectively. A physician performed the MIS test and modified Charlson Comorbidity Index (CCI) questionnaire. HGS was measured on the nonfistula side before dialysis session using a hand dynamometer (Takei 5401).

Results: HGS differs between male and female ($p<0.001$). Thus, patients were divided into low and high HGS according to the gender-specific median HGS values. It was revealed that there was a significant relationship between age, CCI, MIS, and gender-specific median HGS values (p=0.001, p=0.001, and $p<0.001$, respectively). A correlation analysis revealed that HGS values

were positively correlated with weight (r=0.190; p<0.001), height (r=0.348; p<0.001), albumin (r=0.349; p<0.001), and creatinine (r=0.374; p<0.001) and negatively correlated with age (r=−0.352; p<0.001), ferritin (r=−0.199; p<0.022), CCI scores (r=−0.350; p<0.001), and MIS value (r=−0.619; p<0.001). In multivariate regressions, adjustment for age, weight, height, creatinine, albumin, and ferritin levels did not materially diminish these relationships. The optimized cut-off points of HGS for MIS >5 were 29.1 kg for men (sensitivity=72.5% and specificity=63.6%) and 20.1 kg for women (sensitivity=63.5% and specificity=57.1%).

Conclusion: Lower HGS values were independently associated with higher MIS among patients on maintenance HD. We recommend using it for early diagnosis and follow-up of PEM because HGS is a non-invasive, cheap, radiation-free, simple and objective test.

OP-55

Nutritional Support Treatment in Patients who Were Followed up and Treated for Mesenteric Ischemia

Timuçin Erol[1], Şermin Ataç[2], Kezban Akçay[2], Nilgün Ölmez[2], Nezih Akkapulu[1], Ahmet Bülent Doğrul[1], Osman Abbasoğlu[1]
[1]Department of General Surgery, Hacettepe University School of Medicine, Ankara, Turkey
[2]Nutrition Support Unit, Hacettepe University School of Medicine, Ankara, Turkey

Objective: The diagnosis and treatment of mesenteric ischemia are extremely hard. While short bowel syndrome may develop after surgery, nutritional support is also required due to developing morbidities. To evaluate the effects of the use of nutritional support therapy on the duration of hospitalization and mortality in patients with mesenteric ischemia in our center during the last 3 years.

Methods: The records of the general surgery department and nutritional support unit were retrospectively reviewed. Patients who were followed up and treated for mesenteric ischemia in the last 3 years were included in the study.

Results: A total of 33 patients were treated with a diagnosis of mesenteric ischemia. Mesenteric ischemia was not detected in three patients, and these patients were excluded from the study group. Of the 33 patients, 62% (n=18) were male. The median age of the patients was 67 (19–87) years. Operative mortality was 37.9% (n=11), and hospital mortality was 55.2% (n=16). The mean duration of stay in the intensive care unit was 15.3±38.1 (0–206) days. Nutritional support treatment was indicated in 62% of the patients (13 parenteral, three enteral, and two complementary parenteral nutrition treatments). In patients who received nutritional support treatment, operative and hospital mortality were 27.8% and 50%, respectively, whereas in patients who did not receive treatment, these rates were 54.5% and 63.6%, respectively. However, these differences were not statistically significant. Short bowel syndrome developed in eight patients, and 87.5% (n=7) of these patients received nutritional support treatment; operative mortality was 50% (n=4) in patients with short bowel syndrome, and hospital mortality was 62.5% (n=5). The mean length of hospital stay was 44.7±49.7 days in patients who received nutritional support treatment and 12.1±8.0 days in patients who did not. The median duration of product use was 18 (3–126) days. The goal was achieved in 61% (n=11) of patients who received nutritional support. There was no difference with regard to hospitalization time and mortality between patients who achieved the goal and could not be reached.

Conclusion: Mortality remains high in patients treated for mesenteric ischemia. It was found that the achievement rate of the target was low in patients who were given nutritional support treatment.

Keywords: Short bowel syndrome, mesenteric ischemia, mortality

OP-56

Comparison of the Effects of Standard and Diabetes-Specific Dietary Products on Strict Blood Glucose Control in Critically Ill Patients

Deniz Kızılaslan[1], Yalım Dikmen[2]
[1]Department of Anesthesiology and Reanimation, Medipol University School of Medicine, İstanbul, Turkey
[2]Department of Anesthesiology and Reanimation, İstanbul University-Cerrahpaşa, Cerrahpaşa School of Medicine, İstanbul, Turkey

Nutritional support is a part of intensive care unit therapy and avoidance of malnutrition plays an important role in the treatment process of intensive care unit patients. In our study, we investigated the effects of diabetes-specific enteral formula and standard enteral formula on tight blood glucose control and insulin requirement in hyperglycemic intensive care unit patients. The study included patients over the age of 18 years with a blood glucose level of 150 mg/dL whom are planned to stay at least 3 days in intensive care unit and able to tolerate enteral nutrition but cannot be orally fed. 80 patients, after obtaining their informed consents, were randomly divided into two groups by using computer-generated block random numbers table. Daily calorie requirement was calculated as 25 kcal×body weight (kg) in patients who can tolerate an intake of 75 ml/h of enteral formula in 24 h. Enteral nutrition was given for 7 h with 1 h of breaks. Group 1 received standard nutrition in the first 24 h, and group 2 received diabetic nutrition. In the second 24 h, diabetic nutrition product was given to the first group, and standard nutrition product was given to the second group. Residual volumes were measured by aspiration. 10 mg dose of intravenous metoclopramide was applied three times for patients with a residual volume >150 mL. Patients were not given intravenous dextrose fluid during the study period. A continuous insulin infusion was given intravenously during the enteral nutrition to maintain blood glucose levels of 80-150 mg/dL, and blood glucose level was measured every 4 h by drawing arterial blood gas sample. In our study; highest, lowest, average, and median blood glucose levels, total insulin, average insulin levels, and the number of insulin dose changes were recorded. No significant difference was observed between two formulas with regard to highest, lowest, and average blood glucose levels. Total and average amounts of insulin were similar. Statistically significant difference was found in the number of insulin dose changes. This can reduce workload of nurses and doctors working in intensive care unit. As a result, it was concluded that diabetes-specific enteral formula does not have an important contribution in tight blood glucose control in non-diabetic critical patients.

Keywords: Glucose, hyperglycemia, insulin, nutrition

OP-57

The Effect of ERAS Protocols and Conventional Patient Care on Postoperative Nutrition

Haldun Gündoğdu[1], Ömer Yazıcıoğlu[1], Bahadır Osman Bozkırlı[2], Mustafa Aksoy[4], Pamir Eren Ersoy[3], Furkan Savaş[1]
[1]Department of General Surgery, Atatürk Training and Research Hospital, Ankara, Turkey
[2]Department of General Surgery, Ankara Training and Research Hospital, Ankara, Turkey
[3]Güven Hospital, Ankara, Turkey
[4]Department of Anesthesiology and Reanimation, Atatürk Training and Research Hospital, Ankara, Turkey

Objective: There is strong evidence that complications and length of hospital stay decrease, and that patient comfort significantly improves with the implementation of the protocols that were first developed for colorectal surgery to enhance recovery after surgery (ERAS). Three basic components of enhanced recovery are the control of pain with modern methods, early mobilization, and proper management of perioperative nutrition. The most important and difficult one of these components is the nutritional management that should be provided in a multidisciplinary fashion and be initiated at the first meeting with the patient and continue even after discharge to home. The aim of the present study was to compare the clinical indicators of nutrition in elective colorectal surgery patients who were managed with ERAS protocols and those who were managed in a conventional manner.

Methods: After the approval of the ethics committee, 150 patients who underwent an elective colorectal resection between January 2009 and December 2018 and whose clinical data that can be used in the present study had been recorded punctually were included in the study. The prospectively recorded data of 100 patients who were managed according to the ERAS protocols (Group A) and 50 patients who were managed in a conventional manner (Group K) were evaluated. The groups were compared for the first time the patients drank water, the first time they consumed liquid food orally, the first time they ate solid food, time to first bowel movement, and time to first defecation.

Results: There was no significant difference between the groups regarding demographic data, American Society of Anesthesiologists scores, preoperative nutritional condition, and surgical procedures. Group A had significantly better results in all the parameters that were compared between the two groups. Six patients in Group A and two patients in Group K had gastrointestinal intolerance ($p>0.05$).

Conclusion: The current management of the patient who will have major abdominal surgery should be conducted by a multidisciplinary team according to ERAS protocols. According to the results of the present study, clinical outcomes regarding nutrition are much better in patients who are managed according to ERAS protocols than in patients who received conventional care.

Keywords: ERAS, nutrition, clinical outcomes

OP-58

The Evaluation of General Characteristics of the Patients Followed up by the Nutrition Support Team: A Single-Center Experience

İsmail Hasırcı, Demet Yılmaz, Meltem Türkoğlu, Dursun Elmas, Zahide Betül Gündüz, Gülsüm Gönülalan, Muhammet Cemal Kızılarslanoğlu
Nutrition Support Unit, Health Sciences University, Konya Training and Research Hospital, Turkey

Objective: To investigate the general characteristics, management strategies for malnutrition, and clinical outcomes in the hospital according to age groups and to examine the relationships between mortality and nutritional way of the patients followed up by our nutrition support team.

Methods: Overall, 411 patients were enrolled in this retrospective study. Demographic characteristics, reasons for hospitalization, comorbidities, wards where the patients were staying, first day Nutritional Risk Screening-2002 scores, length of hospital stay (LOS), and clinical outcomes of the patients were recorded. Clinical parameters were compared between younger and older patients. Independently associated factors for mortality were analyzed by multivariate regression analysis. Survival analysis was done by Kaplan–Meier/log-rank method.

Results: The median age of the patients was 75 (18–96) years (54.3% male and median LOS 23 (0–261) days). The wards where the patients were staying were intensive care (57.2%), non-surgical (34.8%), and surgical (8.0%) units, respectively. The most common causes for hospitalization were neurologic (55%) and pulmonary (42.6%) problems. The nutritional supports were provided by feeding tube (60.1%), parenteral (40.4%), oral (37.7%), and gastrostomy/jejunostomy (29.2%). The rate of pressure ulcers was higher in older than in younger patients (55.3% vs. 34.2%, $p<0.001$). Hospital mortality was 43.6%. Median survival was lower in older than in younger patients (42 vs. 76 days, $p=0.002$). Median survival was higher in patients with oral feeding than in those without (63 vs. 41 days, $p<0.001$). Median survival was lower in patients with parenteral than in those with oral and/or enteral feeding (14 vs. 48 days, $p<0.001$). Age (hazard ratio (HR): 1.028, 95% confidence interval (CI): 1.010–1.046), sepsis (HR: 4.365, 95% CI: 1.810–10.528), malnutrition in the first day of admission (HR: 2.223, 95% CI: 1.198–4.126), parenteral nutrition (HR: 2.458, 95% CI: 1.432–4.220), oral nutrition (HR: 0.090, 95% CI: 0.045–0.182), tube feeding (HR: 1.915, 95% CI: 1.015–3.614), and feeding by gastrostomy/jejunostomy (HR: 0.113, 95% CI: 0.057–0.224) were found to be independently associated factors for hospital mortality (all parameters had $p<0.05$).

Conclusion: It was shown that the study population had high hospital mortality rate, and age, malnutrition, severe infection, and nutritional ways were independently correlated factors for hospital mortality.

OP-59

Burden of Care Among Caregivers: A Cross-Sectional Study Comparing Homecare and Palliative Care

Yasemin Korkut
Department of Family Medicine, Kütahya Health Science University, Kütahya, Turkey

Objective: The health of patients and caregivers has become a significant public health problem. The aim of the present study was to determine whether there is a difference in care burden, anxiety, and depression between voluntary caregivers of patients living at home and those in the palliative care unit. The study was conducted in a cross-sectional design.

Methods: A total of 186 voluntary caregivers were enrolled in the study. Ninety-three of the cared patients were at the palliative care unit. In contrast to those receiving home care, caregivers of patients in the palliative care unit received training on patient care while they were in the hospital. The care burden, anxiety, and depression levels of the caregivers in both groups were measured using the Zarit Caregiver Burden and Hospital Anxiety and Depression scales.

Results: The mean burden and anxiety scores of the caregivers were higher in the palliative care than in the homecare group. Both burden and anxiety scores were significantly higher in the palliative care group ($p<0.001$). Sociodemographic data were not related to the burden of care in both groups ($p>0.05$).

Conclusion: It is important to provide social support and training to caregivers of palliative patients. One of the distinguishing features of patients at the palliative care unit is the opportunity to provide ongoing medical support, social support, and education to the caregivers. However, apparently, the interventions at the palliative unit were not enough to compensate the difference in the burden of care between the two groups.

Keywords: Patient care, anxiety, palliative care, home care services, caregiver burnout

OP-60

The Effect of Starting Time for Nutrition on Outcome

Nevzat Mehmet Mutlu[1], Güzin Ceran[1], Tülay Tunçer Peker[1], Nurgül Doğan[1], Kübra Kaya Güney[1], Dilek Kanyılmaz[2], Eda Ersan[1], Özlem Balkız Soyal[1], Ayşe Pınar Mutlu Titiz[3], Esra Tayaz[4], Ayşe But[2], Işıl Özkoçak Turan[1]
[1]Department of Anesthesiology and Reanimation-Critical Care, Health Sciences University Ankara Numune Training and Research Hospital, Ankara, Turkey
[2]Department of Infectious Diseases, Health Sciences University Ankara Numune Training and Research Hospital, Ankara, Turkey
[3]Department of Neurology, Health Sciences University Ankara Numune Training and Research Hospital, Ankara, Turkey
[4]Department of Internal Medicine Nursing, Ankara Yıldırım Beyazıt University, Ankara, Turkey

Objective: Nutritional support is one of treatments taking place in the intensive care unit (ICU). Studies regarding starting time for feeding (STF) (early/late), route of feeding (enteral/parenteral), and their effects on outcome in the ICU are still in progress. In our study, we evaluated the route of feeding, STF, infectious complications, intensive care and hospital stay of patients in the general ICU, and their influence on ICU outcome.

Methods: After ethics committee approval, 796 patients treated in the ICU between 2015 and 2017 were evaluated using patient files and hospital computer database. Age, gender, diagnosis on ICU admission, Acute Physiology and Chronic Health Evaluation (APACHE) II scores, comorbidities (heart failure (HF) and chronic kidney disease (CKD)), starting time route and duration of feeding, requirement and duration of mechanical ventilation (MV), and ICU infections were recorded. Statistical analysis was performed by SPSS.

Results: The demographic data of the patients. The comparison of mortality according to nutritional status and in fed patients. Logistic regression analysis showed APACHE II elevation, comorbidities, HF, CKD, malignancy, feeding disruption, inability to feed enterally, respiratory failure requiring MV, and ventilator-associated pneumonia (VIP) to be independent risk factors for mortality. STF was neither a risk factor for mortality in fed patients nor the others.

Conclusion: Although mortality rates in the 104 patients not fed (91%) were significantly higher than those in the fed ones (30%), the non-fed patients had shorter ICU stay (1.88±1.3 days) and higher APACHE II scores (28.6±9.8), revealing that it is wiser to correlate mortality with the severity of the disease at the time of admission rather than nutrition. Most of the patients (94%) were started feeding early. Although the start of feeding times compared in accordance with mortality were statistically different, mean values for both groups (19.13±16.5 and 24.66±21.1) were compatible with early feeding. The mortality rate was lower in patients who started feeding early ($p=0.49$), but STF was not detected as an effective risk factor for mortality. In conclusion, APACHE II (disease severity), comorbidities (such as CKD, HF, and malignancy), respiratory insufficiency requiring MV, and VIP increase mortality, whereas enteral feeding reduces mortality. There is a need for prospective randomized studies with subgroups organized according to the severity of the disease to reveal the effect of the starting time for feeding on the outcome.

OP-61

Assessment of Nutritional Status in Patients with Chronic Pulmonary Diseases Before and After Pulmonary Rehabilitation

Demet Kerimoğlu, Aslı Görek Dilektaşlı, Ayten Odabaş, Dilara Ömer, Mehmet Karadağ
Department of Pulmonary Medicine, Uludağ University School of Medicine, Bursa, Turkey

Objective: Pulmonary rehabilitation (PR) is a multidisciplinary approach that aims to maintain optimal daily physical activities and quality of life in patients with chronic pulmonary diseases.

Methods: Patients with chronic pulmonary disease referred for PR program in Uludağ University, Pulmonary Rehabilitation Center between February 2017 and February 2019 were consecutively enrolled. All of the patients underwent anthropometric measure-

ments (mid-arm circumference and calf circumference) and handgrip strength (HGS) measurement with hand dynamometers before and after completing a standard PR program including both resistance and endurance training. Nutritional status was assessed by Nutritional Risk Screening Questionnaire, and daily dietary program was obtained according to daily energy–protein requirements. Oral nutritional supplements were prescribed when necessary.

Results: A total of 27 patients (F/M=6/21) were enrolled in the study. The mean age of the group was 62.6±11.7 years. Twenty-two patients had chronic obstructive pulmonary disease (COPD), whereas five had non-COPD diseases (bronchiectasis and interstitial lung disease). Baseline NRS score was 3.3±0.9, whereas the total score was 2.9±0.9 after PR (p=0.003). A total of 96.3% of the group were prescribed oral nutritional supplementation. Total patient adherence to the given dietary program was 81.5%. Pre- and post-body mass index (30.9±8.6 and 30.2±6.0; p=0.903), fat-free mass (54.0±9.8 and 53.8±9.4; p=0.626), mid-arm circumference (31.0±6.8 and 31.5±5.7; p=0.376), and calf circumference (36.9±6.6 and 37.5±6.3; p=0.172) were comparable before and after the PR program. Significant improvements were observed in the HGS (26.6±8.2 vs. 28.3±16.6 6 Kgf, p=0.002) at the end of the PR program compared with the baseline measurements.

Conclusion: HGS is a sensitive outcome measure for PR program in patients with chronic pulmonary diseases. Significant improvements were observed in HGS after nutritional support and PR program in patients with chronic pulmonary diseases.

Keywords: Enteral supplementation, nutritional support, pulmonary rehabilitation, handgrip strength, chronic pulmonary diseases

OP-62

Evaluation of the Effectiveness of Current Practices Course in Enteral and Parenteral Nutrition for Nurses

Sibel Yılmaz Şahin[1], Hatice Ayhan[1], Kezban Akçay[2], Esen Kartal[3], Özgü Bakçek[4], Rümeysa Özçelik[1], Esra Özden[5], Emine İyigün[1]
[1]Health Sciences University, Gülhane Faculty of Nursing, Ankara, Turkey
[2]Nutrition Support Unit, Hacettepe University, Adult Hospital, Ankara, Turkey
[3]Endoscopy Unit, Ankara City Hospital General Hospital, Ankara, Turkey
[4]Department of Hematology and Blood Diseases, Health Sciences University Gülhane Training and Research Hospital, Ankara, Turkey
[5]Department of Nursing, Atılım University Faculty of Health Sciences, Ankara, Turkey

Objective: Nurses are members of the nutrition team that has many roles ranging from determining malnutrition to meeting nutritional requirements. In the literature, there are studies suggesting that nurses have low levels of knowledge about nutritional support for patients and that information needs should be met by organizing trainings. For this purpose, in co-operation with the University of Health Sciences Gülhane Faculty of Nursing and Turkish Society of Clinical Enteral & Parenteral Nutrition, ''Current Practices Course in Enteral and Parenteral Nutrition for Nurses'' was organized. The aim of this study was to evaluate the results of this course.

Methods: In this study, the course carried out on March 2, 2018, was retrospectively examined. The course consisted of a total of 8-h theoretical and practical training. The theoretical training of the course consisted of the current issues related to nursing care in enteral and parenteral nutrition. Practical training was carried out in four halls, two of which were enteral nutrition and two were parenteral nutrition. The trainees were rotated in a way to facilitate participation in both practices. In each hall, two nutrition nurses as trainers simulated practices on models. To evaluate the effectiveness of the course, pre-test and post-test consisting of 20 questions, 10 of which were related to enteral nutrition and 10 related to parenteral nutrition, were applied. Each question was worth five points, and the total score ranged from 0 to 100.

Results: It was determined that, in the course, 63 nurses answered pre-test and 59% of them received undergraduate education, whereas 1/3 of them worked in intensive care units and 62.3% of them had not received nutritional support training before. The mean age of the participants was 30.75±6.89 years, and their average professional experience was 8.48±7.5 years. The mean score of the participants in the pre-test was 35.16±7.98 for enteral nutrition, 35.95±6.71 for parenteral nutrition, and 71.11±11.69 for the total score. The mean score of the participants in the post-test was 42.65±6.58 for enteral nutrition, 45.61±4.92 for parenteral nutrition, and 88.26 ± 9.43 for the total score. When the average scores of the pre-test and post-test of the trainees were compared, it was found that the post-test scores were significantly higher than the pre-test scores ($p<0.05$).

Conclusion: It was evaluated that the training performed in the course was effective in increasing the knowledge of nurses about enteral and parenteral nutrition, and the use of similar training methods is recommended in the following trainings.

Keywords: Enteral nutrition, parenteral nutrition, nurse, education

OP-63

Comparison of NUTRIC Score and NRS 2002 to Evaluate the Nutritional Status of Patients in Intensive Care Units

Ezime Toruk[1], Melda Türkoğlu[2], Lale Karabıyık[3], Gül Gürsel[4], Bijen Nazlıel[5], Gülbin Aygencel[2], Müge Aydoğdu[4], Hale Zeynep Batur Çağlayan[5], Gamze Akbulut[6]
[1]Gazi University, Health Research and Application Center, Nutrition Unit, Ankara, Turkey
[2]Department of Internal Medicine, Intensive Care Unit, Gazi University School of Medicine, Ankara, Turkey
[3]Department of Anesthesiology and Reanimation, Intensive Care Unit, Gazi University School of Medicine, Ankara, Turkey
[4]Department of Pulmonology, Intensive Care Unit, Gazi University School of Medicine, Ankara, Turkey
[5]Department of Neurology, Intensive Care Unit, Gazi University School of Medicine, Ankara, Turkey
[6]Department of Nutrition and Dietetics, Gazi University Faculty of Health Sciences, Ankara, Turkey

Objective: Nutritional support is an essential component of patient care in critically ill patients. The frequency of malnutrition in the intensive care unit (ICU) ranges from 39% to 50%. The assessment of nutritional status is the basis for identifying patients at risk for malnutrition and should be performed 48 h after ICU admission. Bioelectrical impedance analysis and the phase angle obtained from this

analysis are frequently used in the evaluation of nutritional status of patients in general. The 2016 ASPEN/SCCM guidelines recommend using the Critical Patient Nutritional Risk Screening (NUTRIC) score or Nutrition Risk Screening (NRS) 2002 in critically ill patients. The aim of the present study was to compare NUTRIC score and NRS 2002 nutritional assessment methods recommended by the guidelines for assessment of nutritional status of patients admitted to ICUs.

Methods: NUTRIC score and NRS 2002 were evaluated in patients who were admitted to the medical, anesthesiological, pulmonary, and neurological ICUs between December 20, 2018 and February 20, 2019. NUTRIC score and NRS 2002 ≥5 were considered as high nutritional risk. Bioimpedance analysis was used to determine the ideal structure of the cell membrane and the phase angle, and the range between 5° and 7° was considered to be normal.

Results: The present study was the preliminary results of an ongoing study. Of the 45 patients evaluated, 56% were female, and 44% were male. The mean age of the patients was 71±15 years. Forty percent of the patients were from medical ICU, 22% from pulmonary ICU, 22% from neurological ICU, and 16% from anesthesiological ICU. The NUTRIC scores of 53.3% of the patients were ≥5. NRS 2002 values were ≥5, suggesting high risk in 41.3% of the patients. Bioimpedance analysis was performed in 24 patients. 58.3% of the patients had phase angles <5°. Of the patients, 42.2% received enteral, 46.7% received enteral plus parenteral, 8.9% received peripheral parenteral, and 2.2% received central parenteral nutrition. According to the bioimpedance measurements, there was no correlation between the low phase angle and malnutrition according to NUTRIC score and between low phase angle and both malnutrition and severe malnutrition according to NRS 2002 score (p>0.05 for all).

Conclusion: NUTRIC score and NRS 2002 can be used to evaluate nutritional status in ICU patients. However, we have not found any correlation between phase angle and these nutritional assessment scores.

Keywords: NUTRIC score, NRS 2002, nutritional status, bioelectrical impedance

OP-64

Guidance on Swallowing Test to Achieve an Effective Feeding Path in the Palliative Care Center

Hilal Zengin[1], Nimet Evin[2], Ceren Ersöz Ünlü[2], Vedat Yıldırım[1]
[1]Department of Anesthesiology and Reanimation, Gülhane Training and Research Hospital, Ankara, Turkey
[2]Department of Otolaryngology, Gülhane Training and Research Hospital, Ankara, Turkey

Objective: Palliative care patients should be evaluated for swallowing functions, and patients should be monitored at regular intervals for neurogenic swallowing dysfunctions. To be able to determine the appropriate feeding path through swallowing test in patients with palliative care and in patients with suspected dysphagia.

Methods: The swallowing functions of 65 patients with suspected dysphagia were evaluated by bedside test. In patients with co-operation, coughing, and respiratory distress, thin liquid, nectar, honey, and pudding consistency with 20–90 cc water via dessert spoon were used in consecutive control. It was observed that cough and sounds were not wetted due to penetration or aspiration. Fiberoptic endoscopic swallowing study (FESS) was performed using water and yogurt colored with methylene blue in patients who were thought to have dysphagia in the bed swallowing test. During FESS, non-oral feeding was recommended in those who had aspiration in yogurt consistency. Oral feeding with semisolid consistency was recommended in patients with liquid foods but not penetration and aspiration with yogurt. Those who had dysphagia in the fluids were followed up with oral intake by means of a consistency adjuster.

Results: Seventeen patients who were given water and did not aspirate with thickeners were fed orally. Twenty-two patients who had limited cooperation orientation had a nasogastric (NG) catheter. Of these patients, 13 had PEC, since they were to be fed long-term non-orally. Seven patients who underwent PEG and NG catheterization were evaluated by swallowing, and the catheters were removed. In eight patients who underwent the FESS procedure, aspiration was observed in liquid and thick foods. PEG was performed in six patients except for two patients whose life expectancy was <6 months. Two patients with PEG were aspirated with FECF and discharged with PEG. PEG was not removed in three patients who were fed by the PEG catheter because the target calories could not be reached orally. TPN was given to six patients who did not have gastrointestinal tract. A patient with a port was discharged home.

Conclusion: Palliative care aims to ensure the quality of life of patients who cannot be treated. The swallowing functions of the patients in the Palliative Care Center should be evaluated at regular intervals, and support from swallowing physiotherapy should be taken. Patients with dysphagia can be fed orally as much as possible by swallowing exercises. The patient, who is evaluated as not to be able to swallow by swallowing test, should be fed non-orally.

Keywords: Oral and non-oral nutrition, palliative care patients, swallowing dysfunction, swallowing test, swallowing therapy

OP-65

The Relationship Between Parenteral Nutrition at Home and Quality of Life and Catheter Infections

Mert Eşme[1], Cafer Balcı[1], Gökşen Öz[2], Fatma Bakraç[2], Fatma Tamer[3], Kezban Akçay[3], Nilgün Doğancı[3], Şermin Ataç[3], Arzu Topeli İskit[4], Seda Banu Akıncı[5], Osman Abbasoğlu[6], Meltem Gülhan Halil[1]
[1]Department of Internal Medicine, Department of Geriatrics, Hacettepe University School of Medicine, Ankara, Turkey
[2]Hacettepe University School of Medicine, Ankara, Turkey
[3]Nutrition Support Unit, Hacettepe University School of Medicine, Ankara, Turkey
[4]Department of Intensive Care, Hacettepe University School of Medicine, Ankara, Turkey
[5]Department of Anesthesiology and Reanimation, Hacettepe University School of Medicine, Ankara, Turkey
[6]Department of General Surgery, Hacettepe University School of Medicine, Ankara, Turkey

Objective: Indications for treatment of parenteral nutrition (PN) at home remain controversial. High rates of infection are reported in patients receiving PN support at home. The aim of the

present study was to investigate the effect of home PN application on catheter-related infection rates with the support of an experienced home nurse.

Methods: The PN indication at home was determined according to the European Society for Clinical Nutrition and Metabolism guideline. Patients >18 years old were included in the study. Before PN support was given at home, complying with asepsis rules for 2–5 days, the patients and their relatives were trained on the preparation and insertion of the feeding bag, catheter care, and complications that may occur. The visits were made by an experienced nurse 2 days/week at home. Short Form Health Survey-36 and Karnofsky quality of life tests were applied to all patients, and patients were evaluated for catheter infection and other complications.

Results: Seventeen (nine male and eight female) patients were included in the study. The median age of the patients was 61 (40–80) years. Fourteen patients had PN support due to malignancy, and two patients had short bowel syndrome. The median body mass index was 20.7 (13–30) kg/m^2, whereas the median Nutritional Risk Screening-2002 score was 4 (3–6). The median follow-up period was 47 (0–155) days. Of the 17 patients, 3 died after the first home visit after being discharged from the hospital. One patient was excluded from the study because she did not want her to come home after her basal evaluation was made. At the end of the study, 15 patients died. PN support was discontinued in two patients who started to take it orally. One patient was hospitalized on day 63 of PN administration at home due to catheter-related infection. One patient had port obstruction due to PN support. In total, PN support with catheter was found as 811 days. The rate of catheter infection was 1.23 in 1000 catheter days.

Conclusion: In our study, the rate of infection was found to be significantly low in patients who were followed up with PN support at home with the help of an experienced nurse.

Keywords: Nutrition, infection, catheter, parenteral

OP-66

Effect of Enteral and Parenteral Nutrition Support on Postoperative Hospitalization Period Among Patients with Esophageal Cancer who Had Esophagectomy: A Single-Center Experience

Süleyman Gökalp Güneş[1], Pınar Sonyürek Arı[2], Bülent Mustafa Yenigün[1], Gökhan Kocaman[1], Ayten Kayı Cangır[1], Seher Demirer[2]
[1]Department of Thoracic Surgery, Ankara University School of Medicine, Ankara, Turkey
[2]Clinic of Nutrition Unit, Ankara University School of Medicine, Ankara, Turkey

Objective: Malnutrition is common in patients with esophageal cancer due to dysphagia. Postoperative complication and mortality rate are high among patients undergoing esophagectomy with malnutrition. As known, peroperative nutritional support contributes to better survival for these patients. The aim of the present study was to investigate the effect of nutritional support on postoperative intensive care hospital stay and postoperative discharge time for patients who underwent esophagectomy for malignancy.

Methods: We evaluated retrospectively 149 patients who underwent total/partial esophagectomy+total/partial gastrectomy because of malignancy between 2001 and 2016 in Ankara University School of Medicine Thoracic Surgery Department. Demographic characteristics, Subjective Global Assessment (SGA), nutrition type (enteral/parenteral), number of feeding days (preoperative/postoperative), duration of hospitalization, postoperative intensive care unit period, and the discharge times of patients with nutritional support by nutrition unit were analyzed by chi-square test and Mann-Whitney U test.

Results: There were 88 (59%) male and 61 (41%) female patients with a mean age of 59 (25-88) years. The mean number of feeding days was 17.9 days, mean duration of intensive care unit stay was 9.1 days, and mean postoperative hospital stay was 18.5 days. When compared with patients who had postoperative nutritional support, patients with peroperative nutritional support had longer intensive care unit period and longer postoperative duration of hospitalization (p=0.002). As the degree of malnutrition increases according to SGA, hospitalization periods were observed to be prolonged. When the nutrition types were evaluated among themselves, it was determined that patients supported with only parenteral nutrition have shorter hospitalization periods than patients who received parenteral and/or enteral support (p=0.027). Among mildly and severely malnourished patients according to SGA, peroperative nutrition support group had longer hospitalization periods than only postoperative supported group.

Conclusion: Preoperative and post-discharge nutritional support is effective on postoperative morbidity, complications, length of stay, and quality of life, as well as postoperative support in patients who underwent resection due to esophageal cancer. We think that the group that was supported in the peroperative period had longer intensive care unit stay because of their severe malnutrition status. However, by making malnutrition situation better with patient-specific support, postoperative morbidity can be reduced, postoperative duration of hospitalization can be decreased, and also hospitalization costs can be minimized.

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11th KEPAN CONGRESS ABSTRACTS

Poster Presentations

PP-01

The Association of Development of Constipation with Nutrition and Physical Activity in Textile Workers

Sevde Yıldız, Fatma Çelik, Meltem Soylu, Ezgi Ertal
Department of Nutrition and Dietetics, Biruni University, İstanbul, Turkey

Objective: In textile mills that contribute to the economy of our country, most of the employees are women. Constipation is a common problem that affects the quality of life. Physical inactivity, undernutrition, age, level of education, environmental modification, postponement of excretion, sexual abuse, pregnancy, stress, depression, drugs, diseases, and various treatment processes are risk factors of constipation. 8-10 h of sitting a day, inadequate menus, delayed defecation due to lack of breaks, toilet conditions, and occupational stress increase the risk of constipation in textile workers. Our study was planned to determine the association between physical inactivity and nutritional status with constipation. The aim of the present study was to examine the association between the development of constipation and the nutritional status of the textile workers who were physically inactivate in the majority of their working hours.

Methods: The study was conducted in 2018 with 86 people aged 18-65 years working in textile mills in different parts of Beykoz district in Istanbul. Data were collected by means of voluntary consent of the participants and approval of Biruni University Ethics Committee (Decision No: 2018/14-12). The inclusion criteria were to work in textile mills, to have an age range of 18-65 years, and to have no communication problems and mental confusion. Data were collected by using structured questionnaire, Rome-III Criteria, Constipation Severity Scale, International Physical Activity Questionnaire Short Form, 24-hour food consumption record, food consumption frequency, and anthropometric measurements. SPSS 15.0 was used for statistical analysis of the data.

Results: Constipation was observed in 36% of the participants, and it was not seen in 64% of the participants. Constipation was found in 64.3% of the regular drug users and 30.6% of those who did not. The mean BMI of the participants was 27.2±5.9 kg/m^2, and the energy they received was 1265.4±487.9 kcal/day, 38.5±11.7% of the energy received is from carbohydrates, 15.7±5.3% from proteins, and 45.5±10.1% from fat, and the amount of fiber taken is 14.8±7.5 g/day. 54.7% of the participants are sedentary and have low physical activity level. In our study, the association between constipation and gender was not significant, whereas the relationship between regular drug use and constipation was significant ($p<0.05$).

Conclusion: Compared with the TUBER-2015 results, the daily energy and carbohydrate contents of the participants were lower than recommended, and the daily fat consumption was high. Fiber intake is very low compared with the World Health Organization recommendations (25-40 g/day). These data support the constipation association with drug use, low physical activity, and malnutrition in textile workers.

PP-02

The Effect of Gastrostomy or Nasogastric Tube use on the Frequency of Aspiration Pneumonia in Patients with Enteral Nutritional Support

Esat Kıvanç Kaya[1], Yeter Nilgün Ölmez[2], Nazmiye Ebru Ortaç Ersoy[1], Burcu Kelleci[3], Osman Abbasoğlu[4], Arzu Topeli İskit[1]
[1]Department of Internal Medicine, Department of Intensive Care, Hacettepe University School of Medicine, Ankara, Turkey
[2]Hacettepe University, Nutrition Support (Nutrition) Nursing, Ankara, Turkey
[3]Department of Clinical Pharmacy, Hacettepe University Faculty of Pharmacy, Ankara, Turkey
[4]Department of General Surgery, Hacettepe University School of Medicine, Ankara, Turkey

Objective: Aspiration pneumonia is a complication that develops in cases with enteral feeding and may be associated with enteral support. The aim of the present study was to compare the use of nasogastric (NG) feeding tube or gastrostomy as an enteral feeding support in patients who were given enteral nutrition support in our center and followed up by the Nutrition Support Unit with regard to aspiration pneumonia development.

Methods: Adult patients with enteral feeding support who were followed up by the Nutrition Support Unit between 01/01/2017 and 01/01/2019 were included in the study. Data of the patients were obtained retrospectively from the hospital data system and Nutritional Support Unit records. Demographic characteristics, underlying diseases, C-reactive protein and prealbumin levels, enteral feeding route, amount, targeted and taken energy–protein levels, aspiration pneumonia, and enteral nutrition complications were recorded. Patient data were analyzed using SPSS 23.0.

Results: Data of a total of 380 patients were evaluated. Forty-five patients underwent gastrostomy. Comparison of patients who underwent gastrostomy and were fed via NG tube. The rate of gastrostomy use was higher than that of NG tube use in patients followed up in clinics (80.7% and 31.1%, respectively; $p<0.001$). NG tube use was higher in patients who were followed up in the intensive care unit than gastrostomy use (55.7% and 10.3%, respectively; $p<0.001$). Patients fed via gastrostomy were found to have a higher amount of protein intake than those fed via NG tube (96.2±183.5 and 61.3±25.9, respectively; $p=0.001$). Aspiration pneumonia was 5%. No significant difference was observed between NG tube and gastrostomy feeding with regard to the development of aspiration pneumonia (4.7% and 5.5%, respectively; $p=0.72$). When other complications (gastrointestinal, mechanical, and metabolic) were evaluated, tube displacement or displacement was observed in a total rate of 16.6% and was found to be higher in patients fed via NG tube than in those fed via gastrostomy (21.3% and 9.0%, respectively; $p=0.002$).

Conclusion: No difference was detected between enteral nutrition support via NG tube or gastrostomy with regard to aspiration pneumonia development.

Keywords: Aspiration pneumonia, nasogastric tube, gastrostomy

PP-04

Adequacy of Protein Energy Intake in Inpatient Cancer Patients: Point Prevalence Study

Arif Timuroğlu, Saadet Menteş, Selda Muslu, Süheyla Ünver, Serda Meral Çelebi, Kadriye Uzunoğlu
Department of Anesthesiology and Reanimation, University of Health Sciences, Dr. Abdurrahman Yurtaslan Ankara Oncology Training and Research Hospital, Ankara, Turkey

Objective: In patients with cancer, the risk of malnutrition is quite high; the disease itself and the treatments applied worsen the nutritional status of patients and affect the course of the disease. The aim of this study was to determine the rate of reaching the daily protein and energy target with the nutrients and nutritional supplements taken during 1 day, and the nutritional status of inpatient patients with cancer at the Ankara Oncology Hospital.

Methods: The study was planned as a daily point prevalence evaluation. All patients with cancer over 18 years of age who were admitted to the inpatient clinic in the internal branches of the Ankara Oncology Hospital and accepted to participate were included into the study. The diagnosis, total calories, and protein content of the patients in the last 24 hours were recorded. The calorie and protein intake of the patients receiving an additional nutritional support were noted. Energy calculations were done by a dietitian.

Results: A total of 71 patients were evaluated. When the patients were examined according to the SGA values, the rate of malnutrition was 78.9%. According to the Schofield equation, the percentage of patients getting the necessary calories was determined as 65.8%. The daily amount of protein taken per kilogram was calculated to be 0.76. It was found that 22.5% of patients were given nutritional support; the amount of daily protein taken per kg of nutritional support was 1.24 per kg, and 0.61 per kg for those without nutritional support.

Conclusion: The rate of malnutrition in our study was found to be 78.9%. The rate of reaching the target calories was 65.8%. In patients who received nutritional support, we found that the rate of reaching the targeted calories was over 75%. There are no clear guidelines on the amount of protein that patients with cancer need to take. The recommendations are that the protein intake is at least 1 g/kg/day. The targeted protein content should be 1.2–2 g/kg/day. The amount of protein taken by the patients in our study was detected as 0.76 g/kg/day. When the nutritional support patients were examined, the protein intake increased to 1.24 g/kg/day.

With the introduction of nutritional support in hospitalized inpatients, we observed that the amount of energy recommended to be taken is approached, and the amount of protein recommended can be reached. We think that all hospitalized patients with cancer should be evaluated for nutritional support.

Keywords: Energy intake, cancer, malnutrition

PP-05

The Effect of the Effect of mNUTRIC Score and NRS-2002 on Predicting Intensive Care Unit Mortality in Patients with Hematological Cancer

İbrahim İleri[1], Cemile Özsürekçi[1], Meltem Gülhan Halil[1], Kürşat Gündoğan[2]
[1]Department of Internal Medicine, Division of Geriatric Medicine, Hacettepe University School of Medicine, Ankara, Turkey
[2]Department of Internal Medicine, Division of Medical Intensive Care, Erciyes University School of Medicine, Kayseri, Turkey

Objective: Hematological cancers are one of the most common types of cancer in Turkey. Intensive care unit (ICU) follow-up and treatment are needed in these patients who develop treatment-related complications. In addition to the medical support of the patients during ICU follow-up, nutritional support is also important. The modified Nutrition Risk in Critically Ill (mNUTRIC) score aims to identify critical patients who can benefit from intensive protein-energy support during ICU follow-up. The Nutritional Risk Screening-2002 (NRS-2002) aims to identify malnutrition, determine the risk of malnutrition, and identify patients who may benefit from nutritional support. The aim of the present study was to investigate the effect of mNUTRiC and NRS-2002 score on ICU mortality and long-term mortality of patients with hematological cancer aged ≥18 years.

Methods: This retrospective study was performed at the Department of Medical Intensive Care of Erciyes University Medical Faculty. A total of 112 patients admitted to the Medical Intensive Care Unit for 1 year were evaluated retrospectively from their medical records. Patients who stayed <24 h in the ICU were excluded from the study. Statistical analysis was performed on a total of 81 records. The endpoint of the study was ICU mortality and long-term mortality.

Results: A total of 81 individuals with a median age of 56 (28) years were included in the study. The median mNUTRIC score of our patients was 6 (3), whereas the median value of NRS-2002 was 4 (1). According to the mNUTRIC score, the risk of malnutrition was present in 56 (69%) patients, and 43 (77%) dead patients had a risk of malnutrition, and this was statistically significant ($p<0.001$). According to the NRS-2002, 66 (82%) patients were at risk of malnutrition, and 46 (70%) dead patients were at risk of malnutrition, and this was statistically significant ($p=0.03$). While 19 (29%) living patients had an infection source, 47 (71%) dead patients had an infection source, and this was statistically significant ($p=0.006$). The mNUTRIC score ($p<0.001$) and the presence of infection source ($p=0.003$) were found as multivariate risk factors affecting ICU mortality.

Conclusion: In our study, the high mNUTRIC score and the presence of infection source were found as independent risk factors for predicting the ICU mortality of patients with hematological cancer.

Keywords: Infection, mNUTRIC score, mortality, NRS-2002

PP-06

Is it Possible to Determine Malnutrition by Screening Tests in Children Presenting to the Outpatient Clinic?

Alper Kaçar[1], Soner Sazak[1], Ömer Faruk Beşer[2]
[1]Department of Pediatric, Health Sciences University, Okmeydanı Training and Research Hospital, İstanbul, Turkey
[2]Department of Pediatric Gastroenterology, Hepatology and Nutrition, Health Sciences University, Okmeydanı Training and Research Hospital, İstanbul, Turkey

Objective: A number of screening tests are used for early detection of malnutrition by identifying those who are at risk for feeding in hospitalized children. The aim of the present study was to determine malnutrition rates and the effectiveness of screening tools in pediatric outpatient clinic.

Methods: A total of 208 children who were admitted to the outpatient clinic between 1 month and 18 years old, did not use any appetizing medication, did not receive enteral nutrition support in the 3 months preceding the admission, and were followed up for the second follow-up in 2–3 months were included in the study. Demographic–environmental characteristics, socioeconomic status, medical history, and reasons of application were recorded in detail. In each patient, height–weight measurements were done at the time of application and during months 2–3 of visit, and height according to age (HAA), weight according to age, weight according to height (WAH), and body mass index (BMI) were calculated using the World Health Organization Anthro/AnthroPlus program. Malnutrition risks were evaluated and scored via STRONGkids (1 month–18 years), and the Pediatric Yorkhill Malnutrition Score (PYMS) (1–16 years) program was divided into three groups as low-, medium-, or high-risk groups. The scores obtained from both screening tools were associated with demographic, socioeconomic, and medical histories and anthropometric measurements.

Results: At the time of presentation, BMI Z score was 8.6% under −2, WAH Z score was 9.7% under −2, and HAA Z score was 13.5% under −2, and acute and chronic malnutrition rates were 9.2% and 13.5%, respectively. Of the 172 patients who underwent STRONGkids scoring, 76 (41.3%) were in the low-, 64 (37.2%) in the middle-, and 37 (21.5%) in the high-risk groups. Of the 208 patients who had PYMS scoring, 83 (39.9%) were in the low-, 38 (18.3%) were in the middle-, and 87 (41.8%) were in the high-risk groups. Presents the comparison of reference Z scores and demographic characteristics with STRONGkids and PYMS scoring. The percentage of patients with WAH and BMI Z scores <3% following a mean follow-up of 45±15 days was 34.5% and 36.5%, respectively. When STRONGkids and PYMS scores were correlated with these decreases, their sensitivity and specificity were 58.4% and 69.1% and 74.3% and 81.6%, respectively.

Conclusion: STRONGkids and PYMS, which are used in the early detection of malnutrition, are valuable in detecting malnutrition that may develop in outpatients, although they do not have the sensitivity and specificity in inpatients.

Keywords: Children, malnutrition screening tests, PYMS, STRONGkids

PP-09

Retrospective Assessment of Patients Feeding with Ostomy for 1 Year in University Hospital

Pelin Ünsal[1], Kezban Akçay[2], Nilgün Olmez[2], Sermin Ataç[2], Fatma Tamer[2], Burcu Kelleci[3], Mert Eşme[1], Meltem Gülhan Halil[1], Osman Abbasoğlu[4]
[1]Department of Internal Medicine, Hacettepe University School of Medicine, Ankara, Turkey
[2]Nutrition Support Unit, Hacettepe University School of Medicine, Adult Hospital, Ankara, Turkey
[3]Department of Clinical Pharmacy, Hacettepe University Faculty of Pharmacy, Ankara, Turkey
[4]Department of General Surgery, Hacettepe University School of Medicine, Ankara, Turkey

Objective: Gastrostomy or jejunostomy tubes are often placed in patients with neurological diseases, malignancies, trauma, burns, and cystic fibrosis. Gastrostomy tubes may be placed endoscopically, surgically, or radiologically. The aim of the present study was to investigate the indications and complications of patients' enteral feeding by ostomy.

Methods: Patients who were enteral feeding by ostomy between January 2018 and January 2019 were evaluated retrospectively. Complications of gastrostomy may be gastrointestinal system, mechanic, and metabolic complications.

Results: A total of 94 patients who underwent gastrostomy (n=83) and jejunostomy (n=11) were reviewed. The median age of the patients was 69.5 (18–94) years, and 48.9% of the patients were female. Indications for gastrostomy tube insertion were cerebrovascular and other neurological diseases (n=26), dementia (n=25), gastrointestinal, head, and neck malignancies (n=26), prolonged feeding with nasogastric tubes (n=11), and other diseases (trauma, burn, and cystic fibrosis) (n=6). When complications were evaluated, diarrhea (n=16, 17.7%), regurgitation (n=7, 7.4%), aspiration pneumonia (n=6, 6.4%), and vomiting (n=5, 5.3%) were noticed. Inadvertent gastrostomy tube removal (n=10, 10.6%), ostomy infection (n=9, 9.6%), tubal leakage (n=3, 3.2%), hypophosphatemia (n=20, 21.3%), and hypokalemia (n=8, 8.5%) occurred. Nutritional Risk Screening (NRS)-2002 was found to be lower in patients with ostomy infection (p=0.037). In multivariate regression analysis, ostomy infection was negatively correlated with NRS-2002 score (β −1.566, p=0.04 (95% CI 0.47–0.932)). Patients with chronic obstructive pulmonary disease (COPD) had a 4.1-fold risk for ostomy infection (β=4.1, p=0.02 (95% CI 4.7–7.74)).

Conclusion: Our complication rates were in accordance with the literature. Patients with low NRS-2002 scores and COPD need to be monitored more closely as the risk of ostomy infection. Frequency of refeeding syndrome was found to be 11.3% in all patients who are on nutritional support. Patients with ostomy may have higher risk for refeeding syndrome so the feeding rates of these patients need to be increased slowly.

PP-10

Determination of the Knowledge Level of Nurses in Enteral and Parenteral Nutrition in a Newly Established Hospital

Sultan Gün İlhan, Ümran Bingöl, Nurdan Çamlıbel, İlker Kızıloğlu
Ministry of Health, Çiğli Regional Training Hospital, İzmir, Turkey

Objective: Although nourishment of patients is important, natural eating is not always possible. In this case, patients need nutritional support by medical ways. Nutritional support can be provided enterally and parenterally. The aim of the present study was to determine the knowledge level of the nurses working in a newly established education hospital about enteral and parenteral nutrition.

Methods: This was a descriptive research. The scope of the research consisted of 112 nurses who agreed to participate in the study of surgical, internal, and intensive care units in a newly established regional education hospital. The research data and sociodemographic specifications had been evaluated by using "Information Form for Enteral and Parenteral Nutrition Practices." Data were analyzed by frequency, percentage, mean, and chi-square test.

Results: The average age of the nurses who participated in the study was 38.4±6.6 years, 69.6% had a bachelor's degree, 40.2% was working as an intensive care nurse, the working year average in the profession was 16.2±0.8 years, the working year average in the department was 2.4±8.4 years, 83% had a support team for enteral and parenteral nutrition, and 51% did not receive any training on enteral and parenteral nutrition. There was a significant difference between the support team for enteral parenteral nutrition applications and the response to the question of "Enteral feeding bag and how many hours in the enteral fed patients by tube?" ($p<0.05$). A significant difference was found between the training received for enteral and parenteral nutrition and the response to the question "How much time should each meal be given in the intermittent enteral and parenteral nutrition method?" ($p<0.05$). In information forms, it was determined that there was a significant difference about the knowledge of enteral and parenteral nutrition between the nurses who took the course and the support team.

Conclusion: According to the result of the study, it was indicated that enteral and parenteral nutrition training programs should be increased for nurses, and that institutional arrangements were needed.

Keywords: Level of knowledge, enteral nutrition, nurse, parenteral nutrition

PP-11

Causes of Interruption of Enteral Nutrition in Critical Patients

İsmail Gömceli, Ayhan Hilmi Çekin, Orbay Harmandar, Nilhan Sesli Orman, Filiz Özcan, Melike Yıldız, Mihrican Şimşek, Mediha Gündoğdu, Burçin Turan, Gülhan Ülküdür
Clinic Nutrition Unit, Health Sciences University Antalya Training and Research Hospital, Antalya, Turkey

Objective: Enteral daily nutritional need can be given by nasogastric, percutaneous (gastrostomy/jejunostomy), or tube. However, although enteral feeding is safe and physiological in intensive care patients, patient compliance problems, tube malpositions, nausea/vomiting, diarrhea, and infection may be interrupted due to metabolic complications or aspiration. To determine the causes of discontinuation of nutritional support therapy in intensive care units and to take measures related to them.

Methods: The demographic data of 543 patients undergoing enteral feeding were evaluated. The reasons of interruption of enteral feeding were also evaluated.

Results: Causes of discontinuation of enteral feeding, hemodynamic instability, electrolyte disorder, gastrointestinal (GI) bleeding, distension, severe vomiting, high gastric residual volume, and severe diarrhea. Hemodynamic instability was the most common cause with 18.6%. No enteral feeding was discontinued in any patient due to diarrhea. The least common cause was pancreatitis with a rate of 0.2%.

Conclusion: Enteral nutrition is a safe, effective and generally well-tolerated nutritional therapy in patients with normal GI system (GIS) function. The discontinuation of enteral nutrition is usually due to GIS complications. Many complications develop due to application errors. Often the most common complications are tube malposition and diarrhea. The most important method for reducing tube malposition and diarrhea is an experienced nutritional team. The reason why these complications are not seen in our hospital is the placement of all feeding tubes by our team and diarrhea management in the presence of a protocol. However, hemodynamic imbalances due to cardiac dysfunctions were found to be the most common conditions in our clinical practice. This is especially evident in patients who need inotropic support. Therefore, studies on the threshold value of the inotropic drug in this patient group that will require the discontinuation of enteral nutrition will play a key role in the resolution of this condition.

PP-12

An Approach to Nutrition of a Patient with Intestinal Lymphangiectasia: A Case Report

Emine Nüket Ünsal[1], Necati Balamtekin[2]
[1]Department of Pediatrics, Gülhane Training and Research Hospital, Ankara, Turkey
[2]Department of Pediatrics, Division of Pediatric Gastroenterology, Gülhane Training and Research Hospital, Ankara, Turkey

Objective: Intestinal lymphangiectasia is a rare protein-inducing enteropathy cause in patients with hypoalbuminemia. Protein-losing enteropathy is a disease caused by the loss of protein-rich lymphatic fluid to the gastrointestinal tract as a result of the expansion of lymphatic vessels. The loss of proteins from the digestive tract leads to significant decreases in plasma levels of albumin and immunoglobulins (IgA, IgG, and IgM). The aim of the present study was to investigate the efficacy of treatment in patients with intestinal lymphangiectasia.

Methods: Data analysis method was used.

Results: Hypoalbuminemia was detected in a patient who was referred with complaints, including diarrhea, vomiting, restlessness, and sucking. As a result of the biopsy performed on the determination of the loss of albumin due to the gastrointestinal system, intestinal lymphangiectasia was diagnosed. A 6-month-old boy was admitted to the Gülhane Training and Research Hospital with a plasma albumin of 1.9 g/dl and hospitalized. In addition to medical treatment, it has been planned to provide medical nutrition therapy, including amino acid-based powdered formula, medium chain triglyceride rich, and 3 g/kg protein. Periodically, albumin replacement is also performed. After a period of steroid therapy, the patient started vomiting and had severe diarrhea; a 50% reduction in oral intake resulted in weight loss (from 9.8 kg to 8.6 kg). Total parenteral nutrition plan was made to the patient with an urgent energy requirement of 105 kcal/kg, protein requirement of 3 g/kg, and oil requirement of 2 g/kg. Vitamin, mineral, and trace element dipeptiven in appropriate doses with his weight were added to the bag. The patient started to eat at 5 cc/h, and in accordance to his tolerance, a continuation dose of 30 cc/h was reached with gradual increase by 5 cc at regular intervals. Body weight and albumin levels increased in the patient who was fed via parenteral nutrition for a while. As oral intake increased, parenteral nutrition was stopped via decrease. When the patient's oral intake and albumin level increased, she was discharged from hospital to be controlled at regular intervals as an outpatient.

Conclusion: In addition to medical treatment, nutritional therapy was also effective in a patient with intestinal lymphangiectasia.

Keywords: Intestinal lymphangiectasia, parenteral nutrition, protein-losing enteropathy

PP-13

The Effects of Anxiety on the Nutrition Consumption of Patients with Cancer in Some Private and State Hospitals in Istanbul

Cevsen Bul, Selen Köksal
Department of Nutrition and Dietetics, Acıbadem Mehmet Ali Aydınlar University, Faculty of Health Sciences, İstanbul, Turkey

Objective: Cancer in diagnosed individuals are seen in four stages, shock, reaction, resistance, and adaptation. In this process, the individual experiences many mood changes, and this affects the medical and medical nutrition treatment of the individual. The aim of the present study was to investigate the effect of anxiety on food consumption in cancer treated in some state and private hospitals in Istanbul.

Methods: The study was conducted between March 1, 2018 and June 1, 2018 with 100 patients with cancer treated at Istanbul University Oncology Institute and Acıbadem Hospitals. Individuals who were sampled were asked to fill out a questionnaire. In the survey, questions were asked to evaluate demographic characteristics, medical treatments, frequency of food consumption, appetite, and anxiety. Specifically, the diagnosis, type, and stage of cancer were recorded and discussed with the patient's physician.

Results: A statistically significant correlation was found between the anxiety level scores of the patients and the diet group changes (r: −0.343, p<0.001). A statistically significant relationship was found between the anxiety scale scores of the patients and the changes in the protein group diet patterns (r: −0.350, p<0.001). A statistically significant correlation was found between the anxiety scale scores of the patients and the fruit group diet changes (r: −0.244, p: 0.014). It was found that there was a statistically significant correlation between the anxiety level of the patients' anxiety scale and the changes in the diet and bread replacer group (r: −0.365, p<0.001). There was a statistically significant correlation between the anxiety scale scores of the patients and the diet group changes in the fat (r: −0.265, p: 0.008). There was a statistically significant correlation between the anxiety level of the patients' anxiety scale and the changes in the diet group (r: −0.314, p: 0.001).

Conclusion: Establishing a treatment plan with a multidisciplinary approach to cancer treatment is an ideal method for physiological and psychological progression of the disease. As a result, factors, such as level of education, working status, religious belief, duration of disease, and economic level, observed during the research affect the level of nutrition along with the level of anxiety.

Keywords: Cancer, nutrition, psycho-oncology, malnutrition, nutrition support systems

PP-15

Nutritional Therapy Preferences and Assessments of Healthcare Professionals: A Survey Study

Pırıl Tuncay[1], Mutlu Doğanay[2], Deniz Erdem[3], Erdinç Çetinkaya[4], Arzu Şahna[1], Hülya Ergun[1], Melike Ermenek[1], Özge Orhan[5]
[1]Clinic Nutrition Unit, Health Sciences University Ankara Numune Training and Research Hospital, Ankara, Turkey
[2]Department of General Surgery, HPB Unit, Health Sciences University Ankara Numune Training and Research Hospital, Ankara, Turkey
[3]Department of Anesthesiology and Reanimation, Health Sciences University Ankara Numune Training and Research Hospital, Ankara, Turkey
[4]Department of General Surgery, Colorectal Unit, Health Sciences University Ankara Numune Training and Research Hospital, Ankara, Turkey
[5]Pharmacy, Health Sciences University Ankara Numune Training and Research Hospital, Ankara, Turkey

Objective: Nutritional screening and nutritional therapy (NT) is implemented by healthcare professionals in malnourished patients. The aim of the present study was to evaluate the knowledge, attitudes, and practices of healthcare professionals (HPs) about NT in a tertiary care hospital.

Methods: The population of the study consisted of 160 HPs working in the intensive care unit, and the sample consisted of 134 people who agreed to participate in a face-to-face 22-question survey. The study is generated by the assessment of questionnaire forms that were performed by the clinical nutrition unit. Number and frequency values and chi-square, Fisher's exact, and Mann-Whitney U tests were used in the evaluation and comparison of data by using SPSS (Statistical Package for the Social Sciences) version 21.0.

Results: One hundred thirty-four HPs (36 doctors (doc), 11 dieticians (diet), 8 pharmacists (pharm), and 79 nurses (nur)) were included in our study. The sample was divided into two groups: doc, diet, and pharm were accepted as group 1 and nur was accepted as group 2. Routine malnutrition assessment was 83.6% in group 1 and 94.6% in group 2 ($p<0.05$). The rates were 65% for those who followed the guidelines and 25% for those who did not follow the guidelines ($p<0.001$). It was determined that the NT parameter transthyretin was preferred in 77.5% in group 1 and 41.5% in group 2. While HP who followed the guidelines for enteral nutrition (EN) started EN therapy for all patients, 79.8% of those who did not follow the guidelines started therapy. It was found that EN therapy was started with standard formula, and that those with follow-up HP (40%) had higher rate than those with no follow-up.

Conclusion: According to the European Society of Parenteral Enteral Nutrition, EN should be given for each patient whose gastrointestinal system is active in the first 24-48 h. The knowledge of HPs about EN was questioned in our study. Routine malnutrition evaluation, usage of transthyretin as a follow-up parameter, response to early EN, and choice of standard enteral formula showed that HPs treat patients in compliance with the guidelines. As a result, it was seen that those who followed guidelines related to NT were parallel with the current guidelines. However, we suggest that therapy would be more effective and more useful with the clinical picture of the patients engaged with the clinical prediction and the application of HP.

Keywords: Malnutrition, enteral, parenteral, guidelines, survey

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PP-16

Effect of Malnutrition Scoring Systems on Intensive Care Unit Outcomes

Kamil İnci[1], Burhan Sami Kalın[1], Eda Macit Aydın[2], Havva Nur Karaaslan[2], Şahender Gülbin Aygencel Bıkmaz[1], Lale Karabıyık[2], Mehmet İbiş[1], Bijen Nazlıel[3], Osman Yüksel[4], Hülya Altun[5], Sema Ünal[5], Melda Aybar Türkoğlu[1]
[1]Department of Internal Medicine and Nutritional Support Team, Gazi University School of Medicine, Ankara, Turkey
[2]Department of Anesthesiology and Reanimation and Nutritional Support Team, Gazi University School of Medicine, Ankara, Turkey
[3]Department of Neurology and Nutritional Support Team, Gazi University School of Medicine, Ankara, Turkey
[4]Department of General Surgery and Nutritional Support Team, Gazi University School of Medicine, Ankara, Turkey
[5]Nutritional Support Team, Gazi University School of Medicine, Ankara, Turkey

Objective: Malnutrition is frequent in intensive care unit (ICU) patients, and it is also related with higher morbidity and mortality rates, more risk of infectious diseases, and higher costs of illness. The aim of the present study was to evaluate the effect of frequently used malnutrition scoring systems on ICU outcome of patients who consulted to the nutritional support unit (NSU) in our tertiary medical ICU.

Methods: In the present study, ICU patients who were consulted to the NSU between 2014 and 2018 in Gazi University, School of Medicine Faculty Hospital were enrolled. Rates of reaching nutrition targets and relationship with clinical outcomes were evaluated. Data about reaching nutrition targets and outcome were evaluated by using univariate and multivariate analyses.

Results: The median age of the patients was 68 (56–80) years, and 53% of the individuals were male in 757 ICU patients. The most common causes of hospitalization were central nervous system diseases (25%), respiratory system diseases (20%), and malignancies (17%). The most common indication of being consulted to the NSU was contraindication for oral intake (47%). The most common feeding route was only parenteral in 40% of the patients. The frequency of malnutrition was 90% according to Nutritional Risk Screening-2002 score and 87% according to Subjective Global Assessment (SGA) and Mini-Nutritional As-

sessment scores. 54% of the patients could reach the targeted calorie levels, and 27% could reach the targeted protein levels. Target calorie level was 1700 (1500–1851) kcal/day, maximum delivered calorie was 1470 (1240–1729) kcal/day, and median delivered calorie was 1002 (800–1100) kcal/day. Target protein level was 98 (90–109) g/day, maximum delivered protein was 70 (59–90) g/day, and median delivered protein was 55 (32–66) g/day. ICU mortality was 38%, and independent risk factors for mortality were malnutrition according to SGA score and moderate or high malnutrition risk according to Malnutrition Universal Screening Tool score and advanced age ($p<0.05$). There was no significant difference in mortality between patients who reached the targeted calorie or protein levels and who did not ($p<0.05$).

Conclusion: Malnutrition is an important predisposing factor for ICU mortality. However, depending on the complexity of ICU patients, there are many factors affecting their outcome. Thus, there may be different results about the effect of reaching nutritional targets alone on outcome, and it should be evaluated along with additional parameters, such as ICU prognostic scoring systems.

PP-17

Prospective Examination of Gastrointestinal System Intolerance, Hypernatremia, and Hyperglycemia Due to Enteral Nutrition in Critically Ill Patients: A Single-Center, First seven Daily Monitoring Result After Nutrition

Nurhayat Tuğra Özer[1], Nilgün Savaş[2], Sevda Onuk[2], Hilal Sipahioğlu[2], Gülşah Güneş Şahin[1], Serap Şahin[1], Murat Sungur[1,2], Kürşat Gündoğan[1,2]
[1]Division of Clinical Nutrition, Erciyes University Health Sciences Institute, Kayseri, Turkey
[2]Department of Medicine, Division of Medical Intensive Care, Erciyes University School of Medicine, Kayseri, Turkey

Objective: Enteral nutrition reduces morbidity and mortality in critically ill patients. Gastrointestinal system (GIS) intolerance, electrolyte disturbances, and hyperglycemia due to enteral nutrition may develop frequently in critically ill patients. The aim of the present study was to determine the incidence of GIS intolerance, hypernatremia, and hyperglycemia in the acute period.

Methods: The study was conducted prospectively in Erciyes University Medical Intensive Care Unit. Patients who are >18 years old received enteral nutrition >48 h in the first 72 h of intensive care unit (ICU) admission. Symptoms of GIS intolerance associated with enteral nutrition were accepted as constipation, diarrhea, aspiration, and high gastric residual volume (GRV). We evaluated as high gastric residual volume (GRV >150 mL), hypernatremia (Na >145 mmol/L) and hyperglycemia (glucose >140 mg/dL).

Results: A total of 122 patients were included in the study. The mean age of the patients was 59±19 years. The most common reasons for ICU admission were respiratory failure (34%) and neurological diseases (20%). The mean Sequential Organ Failure Assessment score of the patients was 9±3. The mean Nutrition Risk in Critically Ill score of the patients was 5±2. Seventy four percent of the patients received nasoduodenal nutrition, and 16% of the patients received nasogastric nutrition. The target caloric requirement of the patients was 1805±308 kcal/day. The mean baseline Na value of the patients was 142.6±6.51 mmol/L, and the mean baseline blood glucose value was 138.2±57.67 mg/dL. GIS intolerance symptoms due to enteral nutrition and patient numbers. Hyperglycemia was observed in 105 (86%) patients, and hypernatremia in 77 (63%) patients.

Conclusion: As a result of the present study, the most common symptoms of GIS intolerance were determined as constipation and diarrhea in patients who received enteral nutrition in the ICU. Hyperglycemia and hypernatremia were also found to be high in patients.

Keywords: Enteral nutrition, intensive care, complication, critical illness, GIS intolerance, hypernatremia, hyperglycemia

PP-18

Retrospective Evaluation of Aspiration and Gastrointestinal System Complications During Nutrition Support by the Enteral Tube According to the Practice Method of the Food

Derya Soysal[1], Leyla Parlak[1], Pınar Arı[1], Barış Hazır[2], Seher Demirer[2]
[1]Clinic of Nutrition Unit, Ankara University School of Medicine, Ankara, Turkey
[2]Department of General Surgery, Ankara University School of Medicine, Ankara, Turkey

Objective: If the gastrointestinal system (GIS) is functioning normally, enteral nutrition is safe, effective, and usually well tolerated. The discontinuation of enteral nutrition is often associated with GIS complications. We aimed to evaluate the complications in patients with enteral tube feeding according to their feeding patterns.

Methods: Data of inpatients followed up by the nutrition team fed by enteral tube were analyzed retrospectively between January 2018 and December 2018.

Results: Overall, 437 patients were observed to be supported by enteral tube. It was determined that 63% (276) of the patients were fed continuously for 24 h, 32% (138) were fed at intervals, and 5% (23) were fed day/night. In 63% (174) of the patients fed continuously, aspiration and GIS complications did not develop, and 37% (102) of them were observed. Emerging complications are as follows: 52% (53) diarrhea, 25% (26) aspiration, 12% (12) vomiting, 2% (2) constipation, and 9% (9) While 86% (118) of the intermittent feeding patients did not have any complications, 14% (20) of the patients had complications. Inpatients with complications were 37% (7) diarrhea, 37% (7) vomiting, 11% (3) aspiration, 10% (2) constipation, and 5% (1) developed more than one complication, respectively. No complication was observed in 74% (17) of the patients fed by day/night, and 26% (6) were seen. Inpatients with complications were 33% (2) aspiration, 33%

(2) vomiting, 17% (1) diarrhea, and 17% (1) had more than one complication, respectively.

Conclusion: Development of aspiration complication, the patient's state of consciousness, hospitalization position, and high amount of gastric residues depends on many reasons. In addition, aspiration complication is most frequently seen in day/night feeding, but at least in Diarrhea-with a wide range depending on how it is defined-is more common in Although it is known that it may be due to many reasons, nausea and vomiting can be seen in Theincidencemost intermittent feeding when evaluated according to the diet. The incidence of constipation is higher in continuous feeding than in other feeding patterns. In this situation, reduced water intake and lack of fiber in the diet, as well as a lack of activity and reduced bowel motility of patients who are continuously fed for 24 h, are thought to be effective.

PP-19

Nutritional Support After Supraglottic Laryngectomy: A Case Report

Gökçen Garipoğlu
Department of Nutrition and Dietetics, Bahçeşehir University, İstanbul, Turkey

Introduction: Laryngeal cancer (CA) is the second most common type of CA among head and neck CAs. Malnutrition, which occurs at a rate of 30%–50% at the time of diagnosis, increases due to dysphagia after surgery. In this case report, the nutritional approach to a patient with postoperative dysphagia will be discussed.

Case Report: A 72-year-old male patient who had hoarseness for approximately 1.5 years was hospitalized in the Gülhane Military Medical Academy ENT Clinic and diagnosed with larynx CA. The patient has no other disease associated with the diagnosis and has no particular condition in his family history. It has been determined that he has been smoking for approximately 30 years. The patient's height was measured as 173 cm, weight 75 kg, and body mass index (BMI) 25.7 kg/m^2. The Nutritional Risk Screening-2002 score was calculated as >3 for screening for malnutrition. There was no abnormality in biochemical values. The patient underwent "Supraglottic Laryngectomy and Bilateral Modified Neck Dissection" surgery. During the operation, nasogastric (NG) feeding tube was inserted, and the nutritional support was started within the first 24 h after surgery. The energy requirement of the patient was 2700 kcal/day, and the protein requirement was 92–115 g/day. A high-protein, high-energy containing polymeric product was used, and the powdered nutritional product containing glutamine and arginine was added. On postoperative day 7, oral intake of the patient was started, and the nutrients consumed were recorded and monitored. NG tube feeding was interrupted intermittently to increase oral intake. In this process, consistency changes in nutrients and oral nutrition fluids (ONS) were made, and a safe swallowing position was achieved. The patient's oral intake was 450 kcal over a 10-day period; therefore, percutaneous endoscopic gastrostomy was offered to the patient who could take <60% of the requirement, but the patient did not accept. The patient was discharged from the hospital on postoperative day 24 because of improvement in oral intake, and no aspiration in the video fluoroscopic evaluation was performed.

Discussion: In the postoperative period, the changed consistency of nutrients may help to swallow and reduce the risk of aspiration. However, these menus may be insufficient to meet the needs of patients with regard to nutritional value. For this reason, ONS can support the prevention of malnutrition and postoperative recovery by increasing energy and nutrient intake.

Keywords: Cancer surgery, dysphagia, nutritional support, ONS, consistency change

PP-20

Nutritional Support in the Treatment of Pediatric Burns: A Case Report

Yasemin Kunduracı[1], Canan İ. İnal Türe[2]
[1]Sakarya Provincial Health Directorate, Sakarya, Turkey
[2]Bozyaka Training and Research Hospital, İzmir, Turkey

Objective: Nutrition is important in the control of increased catabolism in patients with burns. To control the metabolic response that may occur in the body, the diet principles are different from normal. A total of 60%–65% of the energy coming from carbohydrates, 20%–25% from proteins, and 20%–25% from fat reduces the inflammation.

Aim: To emphasize the important points in the nutrition treatment of a pediatric patient with burns.

Methods: A patient who was followed in the Burn Intensive Care Unit in Izmir Bozyaka Training and Research Hospital was selected.

Case: S. E., a 13-year-old male with 2nd–3rd degree burns, severe burns 40%, and diagnosed with epilepsy.

History: Flame burn with thinner; the patient's body mass index was 21.1, and severe malnutrition was detected in the nutritional risk assessment.

Nutrition Therapy: Starting from the 3rd day of hospitalization, the patient received 125 g/h continuous infusion 6x1 standard fiber product (3200 kcal) and nasogastric nutrition. The dietary composition was changed with 2–3 liquid defecations per day and distention per day. To provide a higher carbohydrate content from Day 21, the enteral feeding dose was reduced to 100 ml/h. Thus, hygiene was established, and 600 ml of fruit juice without any particulates was given daily. After the 28th day, the patient had parasites in stool with the presence of unstoppable diarrhea. Nutrition infusion was reduced to 50 ml/h, and hygienic 500 mL of ayran were added. PEG was opened at the end of the 2nd month. Finally, the patient was followed with 5x500 ml of standard fiber product, ayran, and fruit juice support. To reach the carbohydrate target, fantomalt at the 8x1 scale was added. In this way, the patient received 3200 kcal: 58% from carbohydrates, 21% from fat, and 21% from proteins daily. The amount and content of calories had been achieved, but glutamine supplementation was occasionally added. Ayran has benefited the patient with its probiotic properties. Occasional diarrhea was treated with probiotics from the prophylactic *Saccromyches* species. An intravenous solution was given to treat deficiencies in vitamins and minerals. The patient, whose grafts and operations were terminated was discharged to home care, and the family was informed.

Discussion: There is no specific enteral product for burn treatment in our country. This situation was the biggest limiting factor in this case.

Conclusion: The product selection and follow-up of complications are important in nutritional therapy. Nutritional therapy in patients with burns is a part of the medical treatment.

Keywords: Pediatric burn, nutritional therapy, burn

PP-21

Efficacy of Post-pyloric Enteral Nutrition: Indications, Success Rates, and 3-year Clinical Experiences

Mihrican Şimşek, İsmail Gömceli, Ayhan Hilmi Çekin, Orbay Harmandar, Nilhan Sesli Orman, Filiz Özcan, Melike Yıldız, Mediha Gündoğdu, Burçin Turan, Gülhan Ülküdür
Clinic Nutrition Unit, Health Sciences University Antalya Training and Research Hospital, Antalya, Turkey

Objective: Although the method of nasoenteric tube feeding has advantages with regard to clinical results, it has difficulties in application due to its high cost and difficulty in placement. However, enteral nutrition is a method that must be kept in mind and sustained to sustain complications. The efficacy and treatment success of post-pyloric nutrition were evaluated.

Methods: Nutrition outpatient clinics and patients followed up in clinics were evaluated by the nutritional support unit between 01/01/2018 and 01/01/2019. Data were compared with the success rates in 2016, and the problems in the use of the tube in enteral nutritional therapy were evaluated and analyzed for efficacy.

Results: Of 85 patients, 41.1% (n=37) were neurological, 43.53% (n=37) were internal, and 15.3% (n=13) were surgical patients. Of these patients, 8.23% (n=7) were due to fistula, 31.8% (n=27) due to vomiting and high residual volume, 7.05% (n=6) due to pancreatitis, and 52.9% (n=45) due to high risk of aspiration, and nasointestinal tube was placed. Polyurethane tube with 10 spirits and 2.5 spiral at the end was used for post-pyloric nutrition. Ten minutes before the procedure, the patient was given 10 mg metoclopramide and smeared with katajelle. The patient was placed on his right side by placing his position and waiting for the end of the tube to pass to the duodenum. A 5–10 ml/h feeding was started from the tube. If the tube passes through the pylorus, the daily target calories are reached by increasing the dose. Nasointestinal tube was reached to the jejunum on day 1 in 69.41% (n=59) of the patients, 11.76% (n=10) reached on day 2, and 9.44% (n=8) on day 3. The nasointestinal tube was placed in the intestine in 90.58% of the patients, and it was not successful in 9.41% (n=8). As 15.29% (n=13) of the patients had withdrawn the tube, 15.29% (n=13) of the patients were unable to use the method effectively because the tube was clogged. The method was used effectively in 60% of the patients during the planned period.

Conclusion: The use of nasointestinal tube is an effective application in the management of complications due to enteral feeding. Although the method of feeding with the nasal intestinal tube is advantageous with regard to the continuity of enteral feeding, success in the placement process is variable. However, increasing the experience of the placement method and performing the process by experienced personnel increase the success of the method. Nutritional therapy is a teamwork involving staff from all stages of treatment. The use of protocols when planning nutritional therapy, especially the nurses who apply the treatment, informing about the treatment protocols, and the problems related to the method will increase the success of the treatment.

PP-23

Is Diarrhea Inevitable in Critical Patients with Enteral Feeding? Contemporary Management of Clinical Patients Without Interrupting Enteral Nutrition

İsmail Gömceli, Ayhan Hilmi Çekin, Orbay Harmandar, Nilhan Sesli Orman, Filiz Özcan, Melike Yıldız, Mihrican Şimşek, Mediha Gündoğdu, Burçin Turan, Gülhan Ülküdür
Clinic Nutrition Unit, Health Sciences University Antalya Training and Research Hospital, Antalya, Turkey

Objective: Gastrointestinal motility is influenced by dietary content; intestinal digestion and absorption capacity; mechanical factors, such as bowel shape, body position, and mobility; established pacemaker cells; secretions; neurohormonal signals; and gut microbiota throughout the gastrointestinal tract. However, all these components change in critical ICU patients. Diarrhea, which frequently develops as a result of these changes, adversely affects patients' benefit from nutritional therapy. To reveal that diarrhea that may occur due to changes in gastrointestinal functions in critically ill patients can be solved with correct management and to show that no patient should be discontinued to enteral feeding because of these changes.

Methods: Of 543 patients who underwent tubular enteral nutrition therapy in our ICU, a total of 213 patients with diarrhea were included in the study. All patients who developed diarrhea were managed with the algorithm prepared by our nutrition team. According to the algorithm, a total of four methods in diarrhea management were applied. The results were evaluated.

Results: Probiotics were started in patients who were clinically appropriate at the first step. As the first method, support for patients with modular support in the treatment plan was discontinued. Intravenous glutamine was started in appropriate (organ function and biochemistry findings) patients. The second method was the use of fibrous standard products for patients who continued to have diarrhea. In patients who were still having diarrhea, the product was replaced with the third method as elemental product that contains MCT and TGF β2. Hypoosmolar/hypocaloric diarrhea gavage that is prepared in the kitchen of our hospital was used as the fourth and last method in patients who could not obtain any results. Diarrhea complication was solved in 11.7% (n=25) of the patients (n=213) with method 1, 25.8% (n=55) with method 2, 20.7% (n=44) with method 3, and 41.8% (n=89) with method 4, and enteral feeding continued. No enteral nutrition was discontinued due to diarrhea.

Conclusion: Enteral administration of nutritional therapy in a critically ill patient affects the prognosis positively for many reasons. However, complications that may develop in enteral-fed patients, such as diarrhea, impact the nutritional support negatively. Therefore, the management of diarrhea is important. The purpose of the protocol is to provide nutritional needs if possible, if not, to provide at least trophic enteral nutrition. As a result of the study, the fact that no patient had to be discontinued to enteral feeding indicates that the protocol was effective.

PP-24

Prevalence of Refeeding Hypophosphatemia in Patients Fed by Enteral Nutrition in the Intensive Care Unit: A 7-Day Follow-up Result After Nutrition

Nilgün Savaş[1], Nurhayat Tuğra Özer[2], Sevda Onuk[1], Serap Şahin[2], Gülşah Güneş Şahin[2], Hilal Sipahioğlu[1], Murat Sungur[1], Kürşat Gündoğan[1]
[1]Division of Clinical Nutrition, Erciyes University Health Sciences Institute, Kayseri, Turkey
[2]Department of Medicine, Division of Medical Intensive Care, Erciyes University School of Medicine, Kayseri, Turkey

Objective: Refeeding hypophosphatemia (RH) is common in critically ill patients and is associated with high morbidity/mortality. The aim of the present study was to determine the frequency of RH in critically ill patients fed enterally in the acute phase.

Methods: The present study was performed prospectively in Erciyes University Medical Intensive Care Unit. Patients who started to feed within 72 h after hospitalization, aged ≥18 years, and with ≥48 h of enteral feeding were included in the study. If phosphorus was <2.4 mg/dL, hypophosphatemia was considered.

Results: The study was performed with 100 patients. The mean age of the patients was 57±20 years. The most common causes of admission to the intensive care were respiratory failure (37%) and neurological diseases (18%). The mean APACHE II score was 22±8. The mean Nutrition Risk in Critically Ill score of the patients was 5±2. A number of 71% of the patients had nasoduodenal, and 17% were fed via nasogastric route. The target caloric requirement of the patients was 1835±303 kcal/day. Daily calories taken by patients were 888±362 kcal/day on day 1, 1254±674 kcal/day on day 3, 1383±660 kcal/day on day 4, and 1462±580 kcal/day on day 7. The average phosphorus levels of the patients and the incidence of hypophosphatemia during the follow-up period. The mean K value of the patients on day 1 was 4.3±0.96 mmol/L, Mg value was 0.9±0.18 mg/dL, and Ca value was 9.0±0.8 mg/dL. The incidence of RH in any day during the 7-day follow-up of the patients was 52%.

Conclusion: As a result of the present study, the frequency of RH was found to be high in critically ill patients fed enterally. The highest rate was detected on day 3. More studies are needed on this subject.

Keywords: Enteral nutrition, intensive care, complication, critical disease, refeeding, hypophosphatemia

PP-25

Refeeding Syndrome in Adults: A Case Report

Emir Tuğrul Keskin, Mehmet Cindoruk
Department of Gastroenterology, Gazi University School of Medicine, Ankara, Turkey

Introduction: Refeeding syndrome is a rare and life-threatening condition and is a condition that begins with re-feeding in patients with severe and chronic malnutrition.

Case Report: A 50-year-old female patient with a history of known systemic sclerosis for 25 years was admitted to the gastroenterology service because of a 15 kg weight loss in the last 6 months. Thiamine and trace elements replacement was initiated, and nutritional support was given to the patient in the high-risk group according to the NICE criteria. Then, the first 2 days of oral nutrition was tried, but the patient who could not tolerate nausea and vomiting was started with 400 kcal/day TPN. Daily electrolyte monitorization was performed, and the patient presented confusion and dyspnea on day 5. Laboratory tests showed hypophosphatemia of 0.68 mg/dl, hypocalcemia of 6.1 mg/dl, hypokalemia of 2.58 mMol/L, and respiratory alkalosis (pH=7.53, PCO_2=22 mm Hg, PO_2=81 mm Hg, HCO_{3-}=18 mmol/L). The patient, who was monitored urgently, had the appropriate electrolyte replacement, and clinical and laboratory findings improved before the expiration of 24 h.

Conclusion: Refeeding syndrome is an uncommon pathology with polyvisceral manifestations occurring in severely malnourished patients receiving either enteral or parenteral artificial refeeding and may cause serious complications. The most important approach is to determine the risk of the patients at the beginning of nutrition and to be vigilant.

PP-26

Hyperhomocysteinemia in Patients with Diverticula of the Colon

Raziye Turan[1], Ahmet Cumhur Dülger[2], Ömer Emecen[3], Ayşegül Torun Göktaş[1], Arzu Ayraler[4], Selahattin Vural[5], Mustafa Yakarışık[6]
[1]Department of Anaesthesiology and Reanimation, Giresun University Ilhan Ozdemir Training and Research Hospital, Giresun, Turkey
[2]Department of Gastroenterology and Hepatology, Giresun University Ilhan Ozdemir Training and Research Hospital, Giresun, Turkey
[3]Department of Biochemistry, Giresun University Ilhan Ozdemir Training and Research Hospital, Giresun, Turkey
[4]Department of Family Medicine, Giresun University Ilhan Ozdemir Training and Research Hospital, Giresun, Turkey
[5]Department of General Surgery, Giresun University Ilhan Ozdemir Training and Research Hospital, Giresun, Turkey
[6]Department of Internal Medicine, Giresun University Ilhan Ozdemir Training and Research Hospital, Giresun, Turkey

Objective: Hyperhomocysteinemia (hHC) has traditionally been associated with cerebrovascular events, cardiac diseases, and

vascular thrombosis. HC is usually related to deficiency of both cyanocobalamin and folate. It has been also associated with low fiber diet and immobilization of the subjects. On the other hand, hHC might cause colonic inflammation and associated with much faster progression of colorectal carcinoma. Diverticula of the colon (DC) is caused by herniation of the colonic mucosa and submucosa through defects in the circular muscle layers within the colonic wall. The aim of the present study was to evaluate HC levels in patients with DDC.

Methods: We consecutively evaluated 115 patients (65 male, mean age 65±12.1 years) who presented with DC and followed in gastroenterology clinic. Baseline concentrations of serum levels of HC, folate, and vitamin B12 were retrospectively obtained from hospital data. Plasma homocysteine concentration was measured by high performance liquid chromatography with a fluorescence detector. Diagnosis of DC was done by colonoscopy. The chi-squared test and independent *t* test were used for comparison.

Results: Patients with DC had significantly higher levels of HC than normal levels (16.4±11.2 µg/l; normal ranges 0-12 µg/l). There was mild hHC among patients with DC. On the other hand, mean vitamin B12 level was 470±317 pmol/l, and mean folate level was 9.3±4.3 ng/ml. There was no deficiency involving both vitamin B12 and folate levels among study population. According to multiple logistic regression, hHC developed more with aging, and male gender was a strong risk factor for hHC (all p<0.001).

Conclusion: Screening for HC is recommended in any patient with DC. Particularly, elderly male patients with DC should be treated with folate and cyanocobalamin if laboratory data indicate features of HC. Furthermore, in the literature, we showed for the first time that HC might cause DC.

PP-27

Distribution of the Responses in the Pre-screening Part of the Nutritional Risk Screening–2002 Used in the Evaluation of Malnutrition in Hospitalized Patients According to Their Gender

Dilek Doğan[1], Selim Gündüz[2], Canan Zengin[1], Aydan Özçelik[1], Ezgi Bayraktar[1]
[1]Department of Nutrition and Diet, Adana State Training and Research Hospital, Adana, Turkey
[2]Adana Science and Technology University, Faculty of Management, Adana, Turkey

Objective: Nutritional Risk Screening (NRS-2002) is used for investigation of patients' malnutrition that was developed by the European Society of Parenteral Enteral Nutrition in 2002. The aim of the present study was to investigate whether nutritional risks and malnutrition are related to gender in the inpatient population.

Methods: The study was conducted with a total of 220 (124 male and 96 female) individuals aged between 20 and 90 years who were hospitalized in Adana City Training and Research Hospital Cardiovascular Surgery and General Surgery clinics. A questionnaire applied to the participants in the pre-screening of the NRS-2002 test was used in patients with a body mass index (BMI) <20.5 kg/m². Weight loss in the last 3 months, decrease in food intake in the last week, and severe disease conditions were questioned, and the distribution of responses to the questions of the patients was analyzed by Pearson chi-square test. If the answer to any question is yes, the second section is passed. If the answers to the questions are no, it is recommended to conduct a weekly screening test, and if a major operation is to be performed. A nutritional treatment plan was performed to provide possible mortality and morbidity risk factors. A total of 220 (124 male and 96 female) subjects (aged between 20 and 90 years) who were hospitalized have been selected randomly in Adana City Training and Research Hospital. In the pre-screening of NRS-2002 questionnaire applied to the participants, Pearson chi-square test was used for distribution of responses to the questions.

Results: According to our results, 5.5% (n=12) of the male patients and 2.3% (n=5) of the female patients (total: 7.7% of the patients, n=17) had a BMI <20 kg/m^2. No statistically significant difference was found (p=>0.218). According to the study results, the rates of male and female patients who lost weight in the last 3 months were 47.3% (n=104) and 52.7% (n=116), respectively (p=0.08). In addition, the rates of patients who had decreased food intake in the last week were 136 in males and 84 in females (p=0.643). In both sexes, no statistically significant difference was found with respect to gender.

Conclusion: Our study results showed that no significant difference was found with regard to gender. Therefore, it may be considered that gender is not effective as the prevalence of nutritional risk.

Keywords: BMI, malnutrition, NRS-2002, pre-screening

PP-28

Evaluation of Patients with Nutrition Support Treatment in General Surgery Department of Ankara University Hospitals in 2018

Pınar Arı[1], Onur Selçuk[1], Esra Canatan[1], Tuğçe Yardal[1], Burak Kutlu[1,2], Seher Demirer[1,2]
[1]Clinic of Nutrition Unit, Ankara University School of Medicine, Ankara, Turkey
[2]Department of General Surgery, Ankara University School of Medicine, Ankara, Turkey

Objective: Malnutrition rates are 30%-60% in hospitalized patients and 25%-65% in general surgery patients. In 2006, under the leadership of KEPAN, general surgical patients at the hospital in Turkey in the work of nutritional risk in hospitalized patients were found to have a risk limit of 8.6%.

Methods: A total of 508 patients with nutritional support were reviewed retrospectively. The malnutrition status of the patients was evaluated by the nutritional support team dieticians, and the planned nutrition pathways were examined.

Results: In 2018, 6115 patients were admitted to the general surgery clinic. Nutritional support was planned to 8.3% (n=508) of inpatients. Of the 6115 patients, 52.6% (n=267) were supported with parenteral, 5.9% (n=30) with nasogastric, 3.9% (n=20) with percutaneous endoscopic gastrostomy, 50.8% (n=258) with oral, and 11.8% with combination. For KEPAN's 2006 data, 8.6% of inpatients are at nutritional risk in general surgery clinics. In the present study, nutritional support was given to 8.3% of inpatients in general surgery. While the number of patients planned to receive nutritional support is considered to be normal for Turkey's average, it is relatively low for the European Society of Parenteral Enteral Nutrition's data.

Conclusion: To determine the patients who need nutritional support treatment, it is necessary to increase the awareness of malnutrition, the results should be well known, and appropriate support should be started.

PP-29

PRACTICES Practices of Caregivers in Patients with Percutaneous Endoscopic Gastrostomy

Rana Elçin Sezer[1], Zeliha Özdemir Köken[1], Sevilay Şenol Çelik[2]
[1]Department of Surgical Nursing, Hacettepe University Faculty of Nursing, Ankara, Turkey
[2]Departmen of Nursing, Kyrenia University Faculty of Health Sicences, Kyrenia, Cyprus

Objective: Percutaneous endoscopic gastrostomy (PEG) is a commonly used method in long-term enteral feeding. However, PEG may cause complications when adequate and appropriate care is not provided. The study was conducted using the observation method. The aim of the present study was to assess caregivers' practices about PEG feeding, medication administration, and stoma care.

Methods: The study consisted of caregivers of 21 patients who had undergone PEG tube insertion at a university hospital and had been discharged from the hospital 3 months earlier. Descriptive characteristics information form and nutrition, medication administration, and stoma care observation form were used to collect research data. After the descriptive characteristics' information form is filled out by caregivers, their stoma care, tube feeding, and medication administration practices were assessed using the non-participant observation method. The observations lasted 50-60 min, and the observed phenomena were noted and recorded without any interpretation.

Results: It was determined that 76.2% (n=16) of the patients had neurological diseases, and that 71.4% (n=15) of the caregivers were women. Observations on nutrition, medication administration, and stoma care were as follows: none of the caregivers washed their hands; 76.2% (n=16) did not check the location and patency of the tube prior to feeding; 61.9% (n=13) did not adjust the position of the patient during and after feeding; 75% (n=15) did not wash the tube before administering medication through it; 65% (n=13) applied more than one medication separately; 90% (n=18) washed the tube with water after medication administration; 1 patient was not evaluated for taking the drug orally; 66.7% (n=14) turned the tube around itself to prevent adhesions around the tube; and 57.2%, 19.1%, 14.3%, 4.8%, and 4.8% cleaned the stoma with povidone iodine, wound care spray, physiological saline, soapy water, and wet towel, respectively.

Conclusion: It was observed that 21 caregivers made some errors in administering on-stoma care, tube feeding, and medication administration practices. It is recommended to establish a home care service to prevent tube-related problems and improper practices of home care of PEG patients.

PP-30

How Can we Accurately and Rationally Utilize the Electronically Created Nutritional Assessment and Guidance System in the Assessment of the Nutritional Status of Patients?

Haldun Kar, Yasin Peker, Eda İmece, Naciye Kaya, Yüksel Karakaya
Nutrition Support Team, Katip Çelebi University, Atatürk Training and Research Hospital, İzmir, Turkey

Objective: Malnutrition is a very important clinical and public health problem. Nutritional screening is a critical stage to detect and treat patients with malnutrition or at risk for malnutrition. It should definitely be performed on the first day of the hospitalization. Computer-assisted, easily applicable, fast, and reliable systems can be used for this. This study aims to share our experience and get feedback on how to utilize electronically created nutritional evaluation and guidance system, which has been used in our hospital since 2009, in the first day of the hospitalization of the patient in a correct and rational way.

Methods: After one-year ONCA study performed in our hospital, nutritional evaluation of the hospitalized patients has been obligatory as per the quality standards of the Ministry of Health. Although very important, nutritional screening can significantly increase the workload of health professionals, and may cause deficiencies in filling forms in a busy work environment. The assessment and follow-up of the nutritional status of the patient is only possible with the cooperation of nurses, dieticians, and doctors; and more accurate results can be achieved if the workload is shared together. For this reason, the first step evaluation of NRS 2002, which is used as a form of nutritional evaluation in our hospital, was added to the nurse form in the electronic environment for the nurses to perform it. In addition, accurate recording of the patient's height and weight was also ensured. The second step evaluation form was defined on the doctor screen. If the response of any question in the first step is yes, the physician is required to fill out the form when it comes to the order screen. When the questions in the first step of NRS were correctly answered, the number of patients required to be filled by the physicians was severely reduced, and the workload was relieved.

Results: If the correct information is not entered into the electronically created nutritional evaluation and guidance system, its advantages may be converted into disadvantages. For this,

awareness of malnutrition and the importance of nutritional support among health professionals should be increased with regular trainings.

Conclusion: We believe that task sharing in the application will significantly contribute to achieving the right results by reducing the workload.

Keywords: Malnutrition screening, NRS 2002, electronic

PP-31

The Effect of Nutritional Support on Disability in Patients with Ischemic Cerebrovascular Disease

Pınar Ortan[1], Dilek Topkartı[1], Neslihan Eşkut[1], Yeter Bulut[2], Meryem Sevinç[2], Canan İnal Türe[2], Özden Yıldırım Akan[2]
[1]Department of Neurology, Health Sciences University İzmir Bozyaka Training and Research Hospital, İzmir, Turkey
[2]Nutrition Team, Health Sciences University İzmir Bozyaka Training and Research Hospital, İzmir, Turkey

Objective: Nutrition is a parameter that affects the morbidity and mortality of patients as much as treatment in neurology patients. Patients with malnutrition prolong the hospitalization period and increase the complication rate. The aim of the present study was to evaluate the role of nutritional status on disability of patients with ischemic cerebrovascular disease who were followed up by our nutritional team.

Methods: Thirty patients with nutritional status followed up by our nutritional staff and 34 patients who were not followed up with this staff were included in the study. Demographic characteristics of the patients were obtained. Harris Benedict and Schofield formulas, Nutritional Risk Screening (NRS) score, and nutritional status were evaluated. Disability status was calculated by the Modified Rankin Score (MRS). We compared the MRSs of the two groups.

Results: Of the 30 patients followed up by our nutrition team, 46% were women, and 54% were men. The mean age of the patients was 69.19±15.04 years, body mass index (BMI) was 25.07±3.21 kg/m^2, MRS was 4.25±1.08 when hospitalized, and MRS was 4.21±1.26 when discharged. Of the 34 patients who were not followed up by our nutrition team, 40% were female, and 60% were male. The mean age of the patients was 73.30±11.69 years, BMI was 25.20±3.66 kg/m^2, MRS was 4.48±0.91 when the patient was admitted, and MRS was 4.09±1.06 when the patient was discharged. There was no difference with regard to gender, age, BMI, NRS, entry MRS, and exit MRS between the two groups (p=0.30, p=0.21, p=0.28, p=033, p=0.12, and p=0.39, respectively).

Conclusion: Nutritional status and disability were similar among patients who were consulted and followed up. This may be due to the impact of in-service nutritional training in addition to our team's close patient follow-up. We also think that the low NRS scores of the patients included in our study may have affected this result.

PP-32

The Role of Nutritional Support Team Nurses in Percutaneous Endoscopic Gastrostomy Education, Analysis of 104 Cases

Haldun Kar, Yasin Peker, Eda İmece, Naciye Kaya, Yüksel Karakaya
Nutrition Support Team, Katip Çelebi University, Atatürk Training and Research Hospital, İzmir, Turkey

Objective: Percutaneous endoscopic gastrostomy (PEG) is a preferred method to continue enteral feeding in chronic diseases requiring long-term nutritional support. For an effective nutrition, it is a very important stage to accurately inform and educate patients with PEG and their families about PEG care and feeding through PEG. This study aimed to emphasize the importance of Nutritional Support Team (NST) nurses in this process with the analysis of patients who were given PEG education by NST nurses.

Methods: For this purpose, 104 patients who were opened PEG and educated by NST nurses in our hospital between January 1, 2017, and December 31, 2018, were retrospectively analyzed. Patients' ages, genders, diagnoses, re-application numbers, and reasons after the education were recorded. For these patients, information forms were prepared on PEG procedure, feeding from PEG and PEG care. Informed patients were recorded, and the forms were given to the patients and their families. The NST phone numbers were shared in the forms for possible problems. Of the patients, 64 were female and 40 were male. The mean age of the female patients was 69 (26–95) years and of the male patients was 59 (20–88) years. In female patients, PEG was opened for neurological disorders in 41 cases, for cancer in 15 cases, and for other diagnoses in eight cases. In male patients, PEG was performed for neurological disorders in 22, for cancer in 14, and for other diagnoses in four cases. It was detected that five patients who received education were re-admitted to our hospital because of infection around PEG for twice on average.

Conclusion: It is useful to provide some basic education by experienced staff to increase awareness of the PEG patients and their families by spending the necessary time and by giving information on how to care the feeding tube and what actions or negligence will cause a problem for the patient. The NST nurses play an important role in these trainings.

Keywords: PEG, education, nurse, nutritional support team

PP-33

The Effect of Nutrition Training on Enteral and Parenteral Nutrition

Yeter Bulut, Pınar Ortan, Canan İnal Türe, İrem Gültekin, Özden Yıldırım Akan
Health Sciences University İzmir Bozyaka Training and Research Hospital, İzmir, Turkey

Objective: Nutrition is a parameter that affects the morbidity and mortality of the patient as much as the primary treatment of diseases. Enteral nutrition is a cheaper way of feeding than parenteral nutrition, leading to less physiological complications. Since 2014, as a nutritional support unit in our hospital, we regularly provide nutrition training to all employees of our hospital. The importance of differentiating patients with risk of malnutrition and the physiological aspect and importance of enteral nutrition are emphasized. Nutritional methods, routes of administration, use of enteral products, and storage conditions are explained. The aim of the present study was to show that these training programs made by our nutrition team create awareness in physicians and employees and cause changes in feeding methods.

Methods: For this purpose, all patients with neurological clinic, enteral, and parenteral nutritional support were retrospectively screened. Patients who were screened between 2012 and 2020 were recorded using SPSS 10.0 program. Patients were divided into two groups as before (B) and after (A). After the establishment of our team, we investigated whether there is a change in feeding methods. Demographic analysis and chi-square test were used as statistical methods. P value was set to <0.05.

Results: Patients who were screened in 2012 and 2013 consisted of group B. Patients who were hospitalized in 2014–2018 were included in group A. The first and second group patients were compared with each other with regard to enteral and parenteral nutrition application. A total of 1831 patients who received enteral or parenteral nutritional support were enrolled in our study. Of 1831 patients, 980 (53.52%) were female, and 851 (46.48%) were male. The mean age of the patients was 74.76 (±14.34) years. The lowest age was 19 years, and the highest age was 102 years. Patients who received enteral and parenteral nutritional support in the study group were found to be statistically significant when compared with the pre- and post-nutrient support units (p<0.0001). Malnutrition delays healing, extends hospital stay, increases the sensitivity to infection, reduces the quality of life, and increases the risk of death in most patients. Nutritional therapy is needed with the increase in malnutrition. In our study, in the presence of the nutritional support unit, it is seen that enteral nutrition increases, and parenteral nutrition decreases. Considering the cost and contraindications of parenteral nutrition, the importance of nutritional support units increases.

Keywords: Enteral nutrition, nutritional support unit, parenteral nutrition

PP-34

Dysphagia: A New Algorithm and a New Multidisciplinary Team for Identification of Patients and Regulation of Their Nutritional Therapies

İsmail Gömceli[1], Ayhan Hilmi Çekin[1], Füsun Toraman[2], Hülya Eyigör[3], Aylin Yaman[4], Şennur Delibaş Katı[4], Meral Bilgilisoy Deniz[2], Ferda Akbay Harmandar[5], Yasemin Biçer Gömceli[4], Hanife Hale Hekim[2], Filiz Özcan[1], Melike Yıldız[1]
[1]Clinic Nutrition Unit, Health Sciences University Antalya Training and Research Hospital, Antalya, Turkey
[2]Clinic of Physical Medicine and Rehabilitation, Health Sciences University Antalya Training and Research Hospital, Antalya, Turkey
[3]Clinic of Otorhinolaryngology, Health Sciences University Antalya Training and Research Hospital, Antalya, Turkey
[4]Clinic of Neurology, Health Sciences University Antalya Training and Research Hospital, Antalya, Turkey
[5]Clinic of Gastroenterology, Health Sciences University Antalya Training and Research Hospital, Antalya, Turkey

Objective: Dysphagia is a term used to define swallowing disorders. Although this group of patients has a functional gastrointestinal system, it is the most difficult group for determination of nutritional therapy because of the risk of aspiration and changes in consciousness. The aim of the present study was to develop a new algorithm to help clinicians to make nutritional treatment decisions in patients with swallowing dysfunction in accordance with the experience of the Dysphagia Unit in our hospital.

Methods: One-year experiences of the Dysphagia Unit in our hospital since May 2017 were evaluated. Swallowing disorders were evaluated by ear–nose–throat specialists with swallowing test and direct laryngoscopy. Central/peripheral nervous systems and neuromuscular diseases were evaluated by neurologists. Physiotherapists followed patients who were fit for swallowing physiotherapy. Patients who had been diagnosed and rehabilitated were handled by the Clinical Nutrition Unit, and nutritional therapy was planned.

Results: An algorithm was created to standardize the application and provide practical convenience to all clinicians after the 1-year experience of the Dysphagia Unit. Oral/enteral/parenteral nutrition indications were standardized with the introduction of the algorithm. It was observed that the indications for insertion of PEG and surgical jejunostomy were optimized, and the awareness of the effectiveness of physiotherapy was increased among clinicians.

Conclusion: The cause of dysphagia may develop or worsen as a result of acute cerebral event, progressive neurological disorders, trauma, surgery or upper respiratory–digestive system diseases, sepsis, respiratory diseases, or cognitive disorders. If the diagnosis of dysphagia is delayed, this results in infection, sepsis, and pneumonia, leading to food/fluid intake deficiencies and nutritional deficiencies. Owing to the complex nature of dysphagia and its differences in presentation, a multidisciplinary approach is required to make decisions based on the symptoms of patients rather than specific diagnostics. In our algorithm, we

have planned in light of the guidelines to provide the least risk and maximum benefit in patients with suspected swallowing disorders. We aimed to prevent the negative outcomes of malnutrition related to dysphagia, especially in patients with possible silent aspirations, and to reduce or delay invasive procedures, such as PEG. In addition, we aimed to improve the quality of life of patients who were fed by nasogastric tube or PEG, by providing a transition to oral route by swallowing. The algorithm that we use is not a definite application for every patient. However, centers should establish a multidisciplinary treatment algorithm for patients with swallowing disorders. This algorithm is a preliminary study.

PP-35

Evaluation of Nutritional Status of the Patients Followed in Palliative Care Center Between September 2018 and December 2018 by NRS 2002

Aybala Cebecik Özcan, Dilara Böber, Cansu Kavrut, Cansu Şerifoğlu, Elif Harman, Didem Adahan
Department of Family Medicine, Karabük University Karabük Training and Research Hospital, Karabük, Turkey

Malnutrition is a nutritional deficiency caused by insufficient nutrient intake or malabsorption in the gastrointestinal tract. Observational and randomized controlled clinical trials have shown that nutrition plays an important role in the onset and progression of diseases and in post-disease recovery. The nutritional deterioration is more common in hospitalized patients. Malnutrition is associated with weakened immune response, poor wound healing, decreased physical and mental functions, prolonged hospitalization, morbidity, and mortality. Screening for nutritional risk is a fast and effective method to identify patients at risk of malnutrition. NRS-2002 was developed in 2002 by the European Society of Parenteral Enteral Nutrition for use in nutrition assessments and is designed for adult patients staying in hospital. In our study, we evaluated the nutritional status of the patients we followed in the palliative care center between September 2018 and December 2018 according to NRS-2002 scores. 50 patients were followed up in our center within 4 months. The mean age of the patients was 71±15.77 years, and the mean NRS-2002 score was 3.6±1.72. 51% of our patients were followed because of cerebrovascular disease, 24.5% Alzheimer's disease, 14.3% cancer, and 11.2% with other diagnoses. 68% of them were admitted from home, 28% from ICU, and 4% from other services. The proportion of patients who could be fed orally was 60.4%, 22.9% were fed with PEG, and 16.7% were fed with NG. 55.1% of them had decubitus ulcers. The number of patients with NRS-2002 score >3 was 28. NRS-2002 average of the patients admitted from home was 3.21±1.71 and from ICU was 4.36±1.55 ($p<0.05$). NRS-2002 score of patients with decubitus ulcer was 3.73±1.72, and no statistically significant difference was found with the score of patients according to decubitus ulcers. There was no statistical difference between the NRS-2002 scores of the patients according to their nutrition type. According to the results, palliative care units should be followed carefully with regard to malnutrition and should be treated more rigorously with nutritional support especially for patients admitted from intensive care.

PP-36

The Effect of Medical Nutrition on Crohn's Disease: A Case Report

Fatma Yasemin Altunay Kuşcu[1], Harun Erdal[1], Cemal Nuri Erçin[1], Ayşe Yalçın[2], Eylül Sağun[3]
[1]Clinic of Gastroenterology, Gülhane Training and Research Hospital, Ankara, Turkey
[2]Nutrition Unit, Gülhane Training and Research Hospital, Ankara, Turkey
[3]Department of Nutrition and Dietetics, Başkent University Faculty of Health Sciences, Ankara, Turkey

Introduction: Crohn's disease is an inflammatory bowel disease that influences, segmentally, the whole gastrointestinal system from mouth to anus. The aim of this case report was to analyze the effect of nutritional therapy and the importance of nutritionist.

Case Report: A 45-year-old patient who had schizophrenia was admitted to the hospital with nausea, vomiting, weakness, fever, and stomachaches after the operation because of a broken leg. He was diagnosed with Crohn's disease based on the examinations. The patient had been losing weight from 103 kg to 60 kg. Total parenteral nutrition with the inclusion of polymeric dust product that contained TGF-β2 and MCT was started because of rapid weight loss. The upper arm circumference of the patient was 21 cm, and triceps skin thickness was 13 mm. The body mass index of the patient was calculated as 18.5 kg/m^2. When examining the level of some serum biochemistry, Fe (58 μg/dl), total protein (4.23 g/dl), and albumin (1.86 g/dl) levels were detected to be low. A total energy requirement was calculated as 30 kcal/kg, as is supposed to be, and it was calculated as 2300 kcal/day. The protein requirement of the patient was calculated as 1.5 g/kg considering a total of 90-120 g/day. The 3-day feed consumption of the patient was evaluated.

Conclusion: Nutritional therapy is an effective treatment in Crohn's disease even in the active phase. Multidisciplinary approach is crucial for treatment of Crohn's disease. In addition to medical therapy, nutritional therapy should be taken as part of complimentary therapy.

PP-37

A Case with Scleroderma Requiring Nutritional Support Due to Systemic Sclerosis Gastrointestinal Complications

Nilüfer Uzun, Çiğdem Bölük, Cem Cengiz
Department of Gastroenterology, TOBB ETU Hospital, Ankara, Turkey

Systemic sclerosis (SS) is an autoimmune disease characterized primarily by sclerotic changes in the skin and internal organs. Gastrointestinal (GI) tract complications are observed in most patients with SS (90% of the patients with esophageal complications). An 83-year-old female patient was admitted to our outpatient clinic with cough, weight loss of 11 kg, and progressive dysphagia with liquid and solid foods for the last year. An upper GI endoscopy revealed LA Grade B esophagitis. In addition, a decrease in peristaltism of the esophagus and stomach was ob-

served. After a 20 Fr gastrostomy tube was inserted into the patient with the use of pull technique, a 15 mm laceration area was observed in the distal esophagus, and hemoclips were applied to this area. Enteral nutrition was started with an osmolarity >500 cmol/L via PEG. In the follow-up, the patient developed diarrhea and aspiration pneumonia for which appropriate treatment was given. The patient was able to tolerate another enteral nutrition product with an osmolarity <500 mg/L. After 2 months, jejunal extension tube was inserted into the patient who developed pneumonia due to recurrent aspiration. DueOwing to ongoing malnutrition, a central catheter was inserted, and parenteral nutrition was instituted.

The final nutrition plan was parenteral 1 mL=1.2 calories, 1 mL 0.04 g protein containing product+1 scale 2.2 g protein containing support product 2 cups, and 6 times a day+alanine-glutamine dipeptide intravenous. The patient's nutrition is regulated by applying intermittently.

Although it is an appropriate approach to open PEG in malnutrition patients with SS, it is important to apply jejunal extension or direct PEG in patients with recurrent aspiration. However, it should be kept in mind that, as in our case, endoscopic complications, such as lacerations, may develop due to the nature of SS. In this case, it has been observed that high osmolality products increase the risk of diarrhea and aspiration, and the tolerance is more difficult. Owing to malabsorption in patients with SS, sudden changes can be observed, and even in a few days, the patient can return in nutritional status. For this reason, the Nutrition Team and the health professionals following such patients should make all necessary changes promptly and step-by-step in patients with SS.

PP-38

How Appropriate are the Indications for Parenterally Fed Patients?

Halil Erkan Sayan
Department of Anesthesiology and Reanimation, Health Sciences University, Bursa High Specialization Training and Research Hospital, Bursa, Turkey

Objective: Parenteral nutrition (PN) is the preferred method when the enteral route is not suitable or inadequate. Although it is well known, it is essential to administer and manage it with the right indication since it can carry significant risks for patients. The aim of the present study was to evaluate the suitability of PN applications in our 6-month period in our hospital and to investigate the adequacy of patients' caloric intake.

Methods: All patients who underwent PN in our hospital were identified from the hospital database and visited by the nutrition support team. Demographic data of the patients, clinical diagnosis, diagnosis, PN indications, and calorie intake were recorded.

Results: During the study period, 333 patients underwent PN. PN was mostly applied in general surgery (104 cases, 31.2%), intensive care unit (ICU) (70 cases, 21%), chest diseases (36 cases, 10.8%), palliative care service (31 cases, 9%), and oncology service (26 cases, 7.8%). PN was initiated due to vomiting (37%), obstructive bowel disease (27%), severe diarrhea (12%), and severe malabsorption (12%). PN was started with an inappropriate indication of 153 (45.9%) patients. The reasons for inappropriate indication were the preference of the physician (142 cases, 92.8%), unwillingness of the patients and their relatives (8 cases, 5.2%), and high gastric resistive volume (3 cases, 2%). The most common unsuitable indications for PN were neurosurgery (5 cases, 100%), chest diseases (33 cases, 91.7%), neurology service (5 cases, 90%), and urology services (14 cases, 82.4%). The clinics that started PN with the appropriate indication were general surgery (85 cases, 81.7%), ICU (52 cases, 75.4%), and internal diseases (6 cases, 46.2%). Two hundred fifty-six (76.9%) patients who started PN were taking inadequate calories. Patients treated in the neurology (10 cases, 100%), nephrology (8 cases, 100%), neurosurgery (5 cases, 100%), and gastroenterology (4 cases, 100%) clinics had undergone inadequate calories.

Conclusion: PN should be initiated alone or in addition to enteral nutrition in patients who do not have enough oral or enteral nutrition for any reason. However, PN indications should be well known, and adequate caloric intake should be followed to minimize the risks associated with PN.

Keywords: Clinical results, parenteral nutrition

PP-39

Evaluation of Acceptability in Amino Acid-Based Formulas

Zeynep Parlak[1], Ceren Akyüz[2], Betül Büyüktiryaki[3], Melike Kahveci[3], Ümit Murat Şahiner[3], Bülent Enis Şekerel[3], Özge Soyer[3]
[1]Department of Nutrition and Diet, Hacettepe University School of Medicine, Ankara, Turkey
[2]Department of Pediatric and Child Health, Hacettepe University School of Medicine, Ankara, Turkey
[3]Department of Pediatric Allergy, Hacettepe University School of Medicine, Ankara, Turkey

Objective: There are varieties of different therapeutic formulas that are used for treatment of cow's milk protein allergy (CMPA). Current guidelines recommend using a milk-based extensively hydrolyzed formula (eHF) as the first choice for treatment of CMPA. Amino acid formula (AAF) is recommended for infants who cannot tolerate eHF and infants with CMPA who have serious symptoms. However, it is thought that AAF has the lowest preferability as taste. The aim of the present study was to evaluate the consumption problem, the inclusion of diets, and the effects of consumption age on the acceptability of the trial age and to evaluate the practices aimed at increasing acceptance in children with ISPA who try AAF.

Methods: A total of 122 patients who were diagnosed with CMPA and tried AAF were included in the study. A questionnaire form was conducted to the parents of the patients, and general information, clinical characteristics, and nutrition history of the patients were recorded.

Results: There were 65.6% male patients, and 87.7% had multiple food allergy. 85.2% of the parents stated that they had a problem with consumption after trial of AAF. In the first 6

months, acceptance of patients who were being tried AAF was 83.3%. After that, this rate decreased to 65.2%. The difference between AAF first trial age and AAF acceptance was statistically significant (p=0.046). It was found that 65.6% of the parents used non-water additions in the preparation phase for adaptation of the AAF, 62% had increased after consumption, and 30% more fruit and juice with the highest increase in consumption. It was found that the rate of inclusion of the formula in their diet was 68.3% in patients with AAF acceptance problems.

Conclusions: Taste of AAFs is an important clinical problem. The trial age affects the acceptance. Additions can increase the acceptance of AAF. During adaptation, additions, such as fruit/fruit juice, can be used to mask the smell and taste.

Keywords: Cow's milk protein allergy, hydrolyzed formula, palatability

PP-40

Evaluation of the Nutritional Status of Patients in the Chest Diseases and Thoracic Surgery Center

Ramazan Baldemir, Mustafa Özgür Cırık, Sevgi Koçhan, Aytül Kılıç, Ali Alagöz
Department of Anesthesiology and Reanimation, Nutrition Unit, Health Sciences University Atatürk Chest Diseases and Chest Surgery Training and Research Hospital, Ankara, Turkey

Objective: Malnutrition rates may be high in centers with chronic obstructive pulmonary disease (COPD) and lung malignancy. The aim of the present study was to evaluate the nutritional status of patients who applied to the nutrition unit of our hospital.

Methods: The diagnosis, age, Nutritional Risk Score (NRS), body mass index (BMI), and recommended feeding method were retrospectively evaluated in patients who were admitted to our hospital's nutrient unit in the first 2 months of 2019. The frequency and percentage distribution of the obtained data were calculated.

Results: A total of 156 (100 (64.1%) male and 56 (35.8%) female) patients were evaluated. The mean age of the patients was 69.7 years, the mean BMI was 23.2 kg/m^2, and the mean NRS was 2.73. While 63 (40.3%) patients were diagnosed with lung malignancy and 48 (30.7%) were diagnosed with COPD, the number of patients with COPD–lung malignancy diagnosis was 3 (1.9%). The rate of patients with NRS 1 or 2 was 30.8% and 3 or 4 with 69.2%. When the patients were evaluated with regard to nutritional product support, 53.9% received oral, 5.7% tube feeding, and 28.3% parenteral nutrition support, whereas only 12.1% did not provide any nutritional product support. It was found that this condition was not related to low normal or high BMI. Parenteral support was provided to 14.5% of the patients with NRS 1 or 2, whereas oral nutrition support was started to 62.5%, and nutritional follow-up was recommended to 22.9%. Parenteral support was provided to 34.2% of the patients with NRS 3 or 4, and oral nutrition was provided to 50% and tube feeding support to 8.3%. According to the diagnosis of patients, nutrition practices are indicated.

Conclusion: Malnutrition rates are quite high in patients with COPD and lung malignancy. In patients with pulmonary pathology, although BMI is normal or high and NRS score is 1 or 2, nutritional support may be required due to lack of oral intake. In fact, the need to provide this support parenterally is not to be underestimated. In conclusion, we think that nutritional status evaluation is important in patients with pulmonary pathologies, such as COPD and lung malignancy, and it may be necessary to modify nutritional scoring systems specifically for these patients.

Keywords: Chest surgery, nutrition, COPD, malignancy

PP-41

Our Experience in the Support of Nutrition by Enteral Tubes

Derya Soysal[1], Leyla Parlak[1], Pınar Arı[1], Barış Hazır[2], Seher Demirer[2]
[1]Clinic of Nutrition Unit, Ankara University School of Medicine, Ankara, Turkey
[2]Department of General Surgery, Ankara University School of Medicine, Ankara, Turkey

Objective: In accordance with the recommendation of the use of nutritional guidelines as "usebowelif it is working," patients with malnutrition with functional bowel but not meeting their needs by oral route should have enteral support via tube. We aimed to screen patients who received nutritional support via enteral tube within 1 year.

Methods: Between January 2018 and December 2018, patients who were followed up by the nutritional team, who were inpatient, and who were fed via enteral tubes were examined retrospectively with regard to their demographic characteristics, clinical distribution, enteral tube feeding methods, feeding times, feeding patterns, and reasons for tube feeding.

Results: A total of 437 patients were provided with support via enteral tube, and 56% of the patients were male and 44% were female. The mean age of the patients was 68 years.

Of the 437 patients, 57% (250) had surgery, 24% (106) had internal medicine, and 19% (81) had emergency service. The mean duration of tube feeding of the patients was 15.08 days.79% (343) of the patients were nasogastric (NG), 13% (57) were percutaneous endoscopic gastrostomy (PEG), and 2% (9) were fed As feeding mode, 63% (276) of the patients were fed for 24 h continuously, 32% (138) were fed intermittently, and 5% (23) were fed day/day. 33% (143) of the patients were discharged while feeding via enteral tube, 25% (112) had undergone oral feeding, 17% (75) died, 7% (29) did not want to support the clinic, and 6% (25) were observed that tube feeding was transferred to another center, and that tube feeding follow-up was terminated due to the deterioration of the general condition of 5% (24). In 7% (29) of the patients, inpatient treatments and enteral tube feeding were still observed.

Conclusion: NG tube feeding method is the most commonly used method, and it is thought that the reason of frequent use is its ease of application and maintenance. In long-term feeds, the PEG method is preferred. Feeding through jejunostomy is the least used method. The most commonly used feeding method

is the 24-hour continuous feed through the pump. Intermittent feeding is also frequently used considering the recommendations of guidelines for food-drug interactions. Day/night feeding is less preferred.

PP-42

Preoperative Malnutrition Risk in Patients with Colorectal Cancer

Halil Durmaz, Şafak Ulutürk, Yamaç Erhan, Hasan Aydede, İlhami Solak, Necmettin Güvence, Eray Kara
Department of General Surgery, Manisa Celal Bayar University School of Medicine, Manisa, Turkey

Objective: Malnutrition in patients with colorectal cancer is still a challenge preoperatively. Malnutrition incidence is high especially in those given neoadjuvant chemo/radiotherapy treatment, and mortality and morbidity rates are worsely effected. In the present study, the effects of nutritional support on morbidity and mortality were evaluated in malnourished patients with cancer.

Methods: A total of 355 patients with 146 rectosigmoid, 88 left colon, 77 right colon, 7 transvers, 4 anal canal, 18 peritonitis carcinomatosa, and 15 secondary colorectal cancer were included between January 2009 and 2019. All patients were screened via NRS2002 and SGE scales preoperatively. Preoperatively macro and micronutritional support and early enteral nutrition (25 kcal/kg/d) were given at least 5 days. They also included i ERAS-CRC protocol and continued postoperatively 60 days.

Results: There were 231 male and 142 female patients with a mean age of 60.9 (23-94) years. 74 patients were well nourished according to SGE-A (20.8%) and NRS2002 (27%) (0-2 points). While SGE (B) indicated 215 patients (60.5%) as moderate nutritional status, NRS2002 indicated 231 (65%) patients with (3-4) moderate nutritional status.66 (18.5%) patients and 28 (7.8%) patients had severe malnutrition according to SGE and NRSR2002, respectively. Mortality and morbidity rates were 2.8% and 7%. Moderate and severe malnutrition were found in 60% of the morbidity group and 40% of the mortality group.

Conclusion: Malnutrition is not rare among patients with colorectal cancer especially those given neoadjuvant therapy. Those patients should be evaluated via SGE and NRS2002 screening tools preoperatively to ascertain risk groups with malnutrition and given nutritional support if needed. Moreover, enriched macro and micro nutrient support with immune nutrients would also decrease the mortality and morbidity rates.

PP-43

Nutritional Assessment of Patients with Decubitus Ulcers Admitted to Wound Care Polyclinic

Melih Akıncı, Kerim Bora Yılmaz, Hülya Yağcıoğlu, Mehmet Saydam
Department of Surgery, Health Sciences University, Ankara Dışkapı Training and Research Hospital, Ankara, Turkey

Objective: To evaluate nutritional status and the need for nutritional support of the patients followed up in wound care polyclinic. Decubitus ulcers are the tissue injuries caused by unequal pressure distribution on ischemic areas. Nutritional deficiencies are important factors in formation and development of these ulcers. There is a strong association between protein-calorie malnutrition and development of decubitus ulcers. In addition to causing ulcers, malnutrition is also associated with inhibition of wound healing. Nutrition is an indispensable factor in the management of high-risk patient groups for prevention and treatment of decubitus ulcers. These patients need education and nutritional support. Therefore, we aimed to assess the nutritional status of patients with decubitus ulcers admitted to wound care polyclinic.

Methods: Patients with decubitus ulcers, admitted to Wound Care Polyclinic in University of Health Sciences, Ankara Diskapi Teaching and Research Hospital, Department of Surgery, were included into the study. Patients' age, gender, comorbidities, body mass index (BMI), nutritional status, number, stage, size, and location of decubitus ulcers were recorded. European Pressure Ulcer Advisory Panel was used for staging of the decubitus ulcers. Mini nutritional assessment (MNA) was used for assessment of malnutrition. Descriptive statistics were expressed as either frequency (%) or mean±standard deviation.

Results: Thirteen patients who were followed up in Wound Care Polyclinic due to decubitus ulcers were included into the analysis. The mean age of the patients was 60.7 years and included 76.9% (n=10) female and 23.1% (n=3) male. Seven (53.9%) patients had one, 4 (30.8%) had two, and 2 (15.4%) had three coexisting diseases. According to BMI assessments, 1 (7.7%) patient was underweight, 6 (46.2%) patients had normal weight, and 6 (46.2%) patients were overweight. According to MNS assessments, 1 (7.7%) patient had normal nutritional status, 5 (28.3%) patients had malnutrition risk, and 7 (53.9%) patients had malnutrition.

Conclusion: Patients who are followed up in wound care polyclinic due to decubitus ulcers are at medium to high risk for malnutrition. Nutritional education and support should be provided during follow-up of these patients.

Keywords: Decubitus ulcers, nutrition, wound care

PP-44

A Rare Reaction in Common Food Allergies

Duygu Emrem, Gamze Nur Koca, Arzu Yıldırım Ar, Pelin Bal Kese, Alev Öztaş
Department of Anesthesiology and Reanimation, Division of Intensive Care, Health Sciences University, Fatih Sultan Mehmet Health Application Research Center, İstanbul, Turkey

Introduction: Anaphylaxis due to food allergies is a rare clinical case. We presented a patient who was followed up in our clinic after anaphylactic reaction and cardiopulmonary arrest due to milk and milk derivatives.

Case Report: A 21-year-old woman with known asthma had anaphylactic reaction due to metoclopramide use at 3 years old and has a history of food allergy to cow's milk and its derivatives. Anaphylactic reaction and cardiopulmonary arrest developed on the patient after eating small milk derivatives in the food. Spontaneous circulation return after 5 min of cardiopulmonary resuscitation was achieved, and the patient was transferred to our clinic. At the arrival of the patient, consciousness was sedated, she was on mechanical ventilator support, heart had tachycardia (126 beats/min), arterial blood pressure was 140/80 mm Hg, breathing sounds were equal and bronchospasmic, and there were respiratory acidosis findings on the arterial blood gas analysis (pH 6.7, pCO_2 163 mm Hg, and pO_2 76.4 mm Hg). Sedation and neuromuscular blocker infusion are started, and the patient was mechanically ventilated due to extensive bronchospasm. The patient was hypotensive when she was initially normotensive, and adrenaline infusion was applied for vasopressor effect and beta-2 agonist effect. The patient was treated with a vibrating mesh nebulizer device as intermittent beta-2 agonist, steroid, ipratropium bromide, and N-acetyl cysteine. $MgSO_4$, hydrocortisone, and theophylline infusions were administered intravenously. Clinical findings and arterial blood gas analysis values were observed within hours. She was extubated in accordance with weaning criteria. Consciousness was open, orientation was complete, respiratory sounds were bilaterally equal and natural, and hemodynamical parameters were stable. At the end of 36 h, the patient was transferred to the Internal Medicine Clinic.

Discussion: Cow's milk allergy usually occurs in the first year of life and can be seen at 2%–7.5%. It can be observed in a wide range from simple skin rash to severe cardiopulmonary involvement. Prevention is possible with a diet that does not contain cow's milk protein. In our patient, the diagnosis of cow's milk allergy was made in early childhood. Despite the patient's protection, anaphylactic reaction developed due to exposure to a very small food amount of cow's milk protein. In anaphylactic reaction due to food allergy, which is rare, intensive case follow-up and treatment is necessary to prevent mortality.

PP-45

Rehabilitation in Adult Patients with Intestinal Failure

Muhittin Yaprak
Department of General Surgery, Akdeniz University Hospital, Antalya, Turkey

Objective: In the acute phase of short bowel syndrome, a large amount of fluid loss and metabolic imbalance are seen. This phase, which begins immediately after resection, usually lasts from 3 to 4 weeks. Then, there is the adaptation phase. In this phase, which lasts from 1 to 2 years, structural and functional changes in the small intestine and colon remain to increase the absorption of gastrointestinal nutrients. In this phase, which lasts from 1 to 2 years, structural and functional changes occur in the remnant small intestine and colon to increase gastrointestinal nutrient absorption. Intestinal failure characterized by insufficient absorption of macronutrient, water, and electrolytes may become permanent despite maximal adaptation. To review literature for rehabilitation in adult patients with intestinal insufficiency and to make inferences on the conditions of our country in light of evidence-based information.

Methods: In the present study, guidelines, reviews, original research articles, and case reports about chronic bowel failure in adult patients published on PubMed, Google Academic, and Scopus are being investigated.

Results: There were 3 guidelines, 14 research articles, 5 original research articles, and 9 case or case series reports in which full text could be reached.

Conclusion: Intestinal rehabilitation is an indispensable component of short bowel syndrome until enteral autonomy is achieved by adaptation. Surgical interventions are required in cases of unsuccessful autonomy. The purpose of these interventions is to increase the insufficient bowel absorption surface of the patient. Bowel transplantation is a way of doing so, but high costs, the necessity for the patient to use medications for life, difficult technique, and the difficulties in finding organ are the disadvantages of this treatment. Other surgical procedures, such as Serial Transverse Enteroplasty procedure, which may be an alternative to bowel transplantation, should be kept in mind.

Keywords: Bowel transplantation, intestinal failure, short bowel syndrome

PP-46

Nutritional Evaluation of Patients with Enteral Nutrition Followed up Between 2017 and 2018 in Palliative Care of Üsküdar Devlet Hastanesi

Burcu Özen Yeşil
Üsküdar Devlet Hastanesi Palliative Unit, İstanbul, Turkey

Patients who applied to the Üsküdar Devlet Hastanesi Palliative Unit due to malnutrition in 2017–2018 were followed up with SGD screening, the biochemical parameters of the patients

were evaluated, and nutritional support was started. The present study was performed to evaluate patients who had no oral intake or had enteral nutrition. Of the 277 patients, 67.4% (n=188) were females, and 32.1% (n=89) were males.

The research data were analyzed by using SPSS 21.0. Descriptive statistical methods were used to evaluate the data. The chi-square analysis was used to determine whether there was a difference between the product classification that was used by patients and their diseases. Of the 277 patients included in the study, 37.2% (n=103) were between 80 and 89 years old, 28.9% (n=80) were between 70 and 79 years old, 17.7% (n=49) were between 19 and 69 years old, and 16.2% (n=45) were ≥90 years old. The mean age of the patients was 78.46±13.11 years. When evaluated for primary diseases, 45.8% (n=127) had Alzheimer, 22.0% (n=61) SVO, 17.7% (n=49) dementia, 5.5% (n=15) Parkinson, and 1.4% (n=4) had cancer diagnosis. For 45.8% (n=127) of the patients, percutaneous endoscopic gastrostomy (PEG) was opened for the first time, whereas 50.2% (n=139) PEGs changed. It was observed that 4% (n=11) of the patients were fed via NGS. The dispersion of given enteral products considering the primary diagnoses of patients and their secondary diseases and laboratory findings are as follows: 35.5% (n=99) immuno-infectious product, 32.5% (90) diabetic product, 21.7% (n=60) standard product, 6.9% (n=19) high-fat low carbohydrate product, and 3.2% (n=9) high-protein products were used. During product classification, standard products were preferred in patients who were passed into enteral feeding for the first time. In patients who were consuming high-protein products, 66.7% (n=6) had Alzheimer, 22.2% (n=2) had dementia, and 11.1% (n=1) had neurological diagnosis, such as SVO. Diabetic products have been preferred in patients who had protein restrictions and/or diabetes. In patients who are diagnosed with neurological disease and also with decubitus ulcers, immunonutrition products are preferred. The dispersion of patients who are using immunonutrition products is as follows: 48.5% (n=48) Alzheimer, 24.2% (n=24) SVO, 7.1% (n=7) Parkinson, and 1.0% (n=1) cancer diagnosis. 6.9% (n=19) of the patients who are classified as other diseases group with respiratory failure used high-fat low carbohydrate products. No statistically significant difference was found between the classification of enteral products consumed by the patients and their primary diseases.

Keywords: Dietitian, immune nutrition, nutrition, palliative, PEG

PP-47

Our Experience with a Severely Malnourished Patient Performed Serial Enteroplasty and Autosuturation: What is the Next Step?

Adnan Kuvvetli[1], Emine Adıgüzel[2], Esen Atay[2]
[1]Department of General Surgery, Health Sciences University Adana State Training and Research Hospital, Adana, Turkey
[2]Nutritional Support Unit, Ministry of Health Adana State Training and Research Hospital, Adana, Turkey

Objective: Short bowel syndrome is a challenging period that is a consequence of multiple reasons. We report a patient with a type 4 gluten-sensitive enteropathy who was operated for paraduodenal hernia in an epicenter hospital performed serial enteroplasty and autosuturation and after management of malnutrition. To emphasize the algorithms for patients followed up with short bowel syndrome.

Methods: The presented case was operated for paraduodenal hernia in an epicenter hospital and resulted with severe malnutrition and offered short bowel transplantation. This period was reported.

Results: The patient was operated for acute abdomen and ileus on 10/09/2018 in an epicenter hospital. A 310 cm short bowel necrotic segment was resected because of paraduodenal hernia, and end-to-end anastomosis was performed. On postoperative day 10, he was operated again because of necrosis of the sigmoidal colon causing acute abdomen with a 30 cm resection using the Hartman procedure. To lengthen the short bowel, serial enteroplasty and autosuturation were performed. The patient was referred to our hospital because of severe malnutrition. Central total parenteral nutrition, enteral solutions, intravenous and oral vitamins, minerals and antioxidants, low weight oxalate diet, and anti-peristalsing agents were prescribed, and the patient was followed inpatient for 2 months. In spite of these approaches, the actual albumin was 18.4/L, whereas K+ was 3.5 mmol/L, Na 131 mmol/L, Mg 1.6 mg/dL, Cu 51 µg/dL, Zn 117 µg/dL, Fe 13 µg/dL, vitamin D 53.19 pg/mL, and vitamin B12 259 pg/mL with a daily 25 times defecation. Short bowel passage graph showed a transit time of 30 min to the large bowel. Owing to ongoing malnutrition, the patient is referred to another center for short bowel transplantation.

Conclusion: Short bowel syndrome is a complicated condition, and procedures, such as lengthening the bowel or transitional time, may not be useful. Nutritional and symptomatic support is a period necessitating close follow-up. Despite these, the support may be inadequate, and short bowel transplantation may be required. In the future, tissue engineering and stem cell usage are in evidence promising choices.

Keywords: Short bowel syndrome, serial transverse enteroplasty, autosuturation

PP-48

Percutaneous Endoscopic Gastrostomy Applications in Intensive Care Patients

Süha Bozbay, Oktay Demirkıran
Department of Anesthesiology and Reanimation, Intensive Care Unit, İstanbul University-Cerrahpasa, Cerrahpasa School of Medicine, İstanbul, Turkey

Objective: Nutritional support in intensive care patients is an important component of the treatment process. In case of malnutrition, morbidity and mortality increase, hospital and intensive care unit stays are longer, and wound healing is delayed. Enteral feeding is our preferred choice, and percutaneous endoscopic gastrostomy (PEG) is often preferred as an access route in patients who require long-term artificial nutrition. In the present study, we evaluated our PEG applications in intensive care patients.

Methods: Patients who underwent PEG between January 2015 and December 2018 in the intensive care unit were evaluated retrospectively. After the family informed consent was obtained, the patients were transferred to the surgical endoscopy unit, and the procedure was performed. Duration of hospitalization, duration of mechanical ventilation, duration of PEG, duration of feeding after PEG opening, data of Acute Physiology and Chronic Health Evaluation (APACHE) II, and PEG complications were evaluated.

Results: Of the nine patients in the study, five were female, and four were male. The reasons for admission to intensive care unit were multitrauma, post-cardiac arrest, intracranial hemorrhage, and sepsis. The mean age of these patients was 56.56±20.17 years, APACHE II score was 30.56±7.28, Glasgow coma score was 5.67±2.55, mechanical ventilation time was 62.67±55.09 days, PEG application time was 46.67±44.29 days, intensive care hospitalization time was 200.56±259.719 days, and enteral feeding time after PEG procedure was a minimum of 6 h and a maximum of 24 h. These patients were fed enterally via nasogastric tube until PEG was opened. No complication was observed during the PEG procedure. In three patients, there were problems, such as tube migration, wound infection, and ostomy leakage during the feeding via PEG. Patients who had PEG complications have been fed parenterally during the healing process till the next PEG replacement. Three patients died, and the remaining six patients were discharged from intensive care as a home care patient.

Conclusion: PEG application period was found to be the long cause of the patient's relatives' late answer to informed consent. The time to enter enteral feeding after PEG procedure varied according to the patient's condition. PEG application provides an easy and safe access route in patients who require long-term hospitalization or who cannot be fed orally.

Keywords: Percutaneous endoscopic gastrostomy, enteral nutrition, intensive care

PP-49

Experience of Clinical Nutrition Unit of Ankara University School of Medicine Hospitals in 2018

Pınar Arı[1], Onur Selçuk[1], Esra Canatan[1], Tuğçe Yardal[1], Derya Soysal[1], Leyla Parlak[1], Nurhayat Toksoy[1], Burak Kutlu[2], Seher Demirer[2]
[1]Clinic of Nutrition Unit, Ankara University School of Medicine, Ankara, Turkey
[2]Department of General Surgery, Ankara University School of Medicine, Ankara, Turkey

Objective: To evaluate the patients who had nutritional support treatment in Ankara University School of Medicine Hospitals in 2018.

Methods: A total of 2737 patients who had nutritional support treatment in 2018 were evaluated retrospectively.

Results: The Clinical Nutrition Unit planned nutritional support treatment for 2737 patients in 2018. Of the 2737 patients, 56.2% (n=1537) were male, and 43.8% (n=1200) were female. The average age of the patients was 64.5 years. Among them, 2046 patients who were given nutritional support were evaluated by Subjective Global Assessment (SGA); 69.5% (n=1421) were severely malnutritioned (C), 15.0% (n=411) were moderately malnutritioned (B), and 10.5% (n=214) were well nutritioned (A). According to disease groups, 40.7% (n=1114) of the patients had cancer, 19.7% (n=538) had acute disease, and 39.6% (n=1085) had chronic diseases. Most of the patients who were given nutritional support were obtaining treatment within the General Surgery Department with 18.6% (n=508). The least number of patients who had nutritional support were in the psychiatry clinic with 1% (n=2). 65.2% (n=1784) of the patients had oral, 27.3% (n=746) had parenteral, 16.6% (n=453) had nutritional support with nasogastric (NG) tube, 3.7% (n=102) had nutritional support with percutaneous endoscopic gastrostomy (PEG), and 10.9% (n=298) had combinational nutritional support. Patients with C group of SGA with 20.5% (n=292) were in General Surgery Department. 35.8% (n=267) of the patients who had parenteral nutrition support were in General Surgery Department. 20.2% (n=92) of the patients taking nutritional support with NG were in Emergency Department. 19.6% (n=20) of the patients taking nutritional support with PEG were in general surgery clinic. 14.5% (n=258) of the patients taking nutritional support orally were in general surgery clinic. 25.8% (n=77) of the patients taking combinational nutritional support were in hematology clinic. 56.6% (n=422) of the patients taking parenteral nutrition (PN) support had cancer, 16.5% (n=123) had acute disease, and 26.9% (n=201) had chronic disease. 32.5% (n=147) of the patients taking nutritional support with NG had cancer, 27.8% (n=126) had acute disease, and 39.7% (n=180) had chronic disease. 38.2% (n=39) of the patients taking nutritional support with PEG had cancer, 26.5% (n=27) had acute disease, and 35.3% (n=36) had chronic disease. Nutritional support at home was planned for 25.2% of the patients. Among these patients, 52% (n=360) had oral nutritional support, 27% (n=190) had PN, and 20.5% (n=80) had nutritional support with PEG at home.

Conclusion: Nutritional support treatment can be applied with utmost effectiveness in areas with experienced nutritional teams.

PP-50

Approach to Nutritional Patients with Duodenal Strain: A Case Report

Furkan Şahin[1], Emine Nüket Ünsal[1], Gökhan Berktuğ Bahadır[2]
[1]Department of Pediatrics, Gülhane Training and Research Hospital, Ankara, Turkey
[2]Department of Pediatrics Surgery, Gülhane Training and Research Hospital, Ankara, Turkey

Objective: Congenital anomalies of the gastrointestinal tract are important causes of morbidity in newborn and childhood. Infants born with congenital malformation of the stomach contain a marked thickening of the pylorus. Circular muscle fibers were hypertrophied. As a result of this thickening, the pyloric duct is severely narrowed, and the stomach contents cannot pass into the duodenum and accumulate in the stomach. As a result, the stomach is noticeably widened, and the baby vomits. This disorder is treated surgically. Genetic factors may play a role in this anomaly.

Methods: Data analysis method was used.

Results: A 6-month-old girl presented with vomiting after each feeding. In her medical history, she had been hospitalized for 3 weeks with hypoglycemia after birth, had rotavirus at the age of 1 and 6 months, underwent pneumonia at the age of 2 months, and was treated twice for route virus infection. The patient was feeding 5–6 times her breast milk daily, 150 cc SMA1 formula three times a day. The patient was admitted to the ward with suspicion of "ileus" and followed up. Endoscopy, when the stomach is not empty; expanded, gastric outflow was a congenital condition leading to duodenal partial obstruction. A total of 1-week total parenteral nutrition (TPN) was started to rest the postoperative gastrointestinal tract. On day 5, catheter was infected, and TPN was discontinued when receiving TPN therapy. A nasogastric (NG) nutrition plan was created. The weight of the patient was 7.1 kg, and the total energy requirement was calculated as 103–105 kcal/kg and was found to be 731–745 kcal/day. The protein requirement of the patient was found to be 18–21 g/day calculated from 2.5 to 3 g/kg. The patient was fed with 18-day feeding, 6 h of rest, and a continued dose of 61 cc/h with Pepti Junior formula. The patient was tolerated for 3 days. After 1 week of NG feeding, oral intake was started, and the patient was discharged with no symptoms.

Conclusion: Nutritional therapy has been shown to be an effective treatment in the postoperative period. In addition to medical treatment, the efficiency of the treatment and follow-up therapy should be evaluated.

PP-51

Polypharmacy and Related Factors

Pınar Küçükdağlı, Gülistan Bahat, Mehmet Akif Karan, Özlem Yılmaz
Department of Internal Medicine, Division of Geriatrics, İstanbul University İstanbul School of Medicine, İstanbul, Turkey

Objective: Polypharmacy is defined as the use of multiple medications that generally range from 4 to 10 medications. Older people tend to have more chronic diseases and more prescriptions for these conditions than younger individuals. The aim of the present study was to assess the relationship between polypharmacy and other factors.

Methods: A total of 300 individuals with ages ≥60 years who were admitted to the Istanbul Medical School Geriatrics outpatient clinic for the first time between 2013 and 2016 were randomized and enrolled into the study. The International Association of Nutrition and Aging's FRAIL scale was used. Polypharmacy was defined as the use of four or more medications. The patients were questioned about their falls, urinary incontinence, chronic pain, activities of daily living, and instrumental activities of daily living and assessed about their nutritional status by Mini Nutritional Assessment.

Results: A total of 300 patients were analyzed by a comprehensive geriatric assessment. The patient sample was composed of 66.8% females and 33.2% males. The mean age of the patients was 78.5±5.7 years. The prevalence of polypharmacy was 82.7%. Univariate and multivariate regression analyses were performed to investigate the association between polypharmacy and other factors. In multivariate analysis, polypharmacy was found to be independently associated with urinary incontinence (p=0.022) and malnutrition (p=0.028).

Conclusion: Polypharmacy is a common problem among older adults that is an independent risk factor for inappropriate medication use and adverse events. In our study, malnutrition and urinary incontinence were found to be independently associated with polypharmacy. These factors can lead to significant decrease in the quality of life of the elderly patient and prolong hospital stay and duration and dependence. In the presence of malnutrition, all factors that may cause this should be reviewed, and the patients should be evaluated with regard to the drugs used for each visit and the possible side effects.

Keywords: Polypharmacy, malnutrition, urinary incontinence

PP-52

Nutritional Support of a Patient Troubled with Cerebrovascular Accident: A Case Report

Çanan İnal Türe[1], Yasemin Kunduracı[2]
[1]İzmir Bozyaka Training and Research Hospital, İzmir, Turkey
[2]Sakarya Provincial Directorate of Health, Sakarya, Turkey

Objective: Chronic cerebrovascular diseases (CVDs) are among the most important health problems in Turkey as in worldwide. Owing to the high risk of malnutrition and pneumonia, early enteral feeding should be initiated for patients with CVD who cannot be fed orally. To prevent the possible risks due to malnutrition and provide nutritional support via an appropriate feeding method and product for a 75-year-old female patient with diabetes mellitus and CVD and also who cannot be fed orally because of dysphagia.

Methods: Follow-up for 62 days of a patient hospitalized in the palliative care unit of Izmir Bozyaka Training and Research Hospital.

Results: A 75-year-old female patient with CVD was admitted to the palliative care unit for palliation and nutritional support. In her physical examination, she was conscious, disoriented, aphasic, and had dysphagia. Before admission in another health center, she had been fed with diabetic enteral products via a nasogastric feeding tube. For the last 3 months, she had approximately 6 kg of weight loss. The patient was evaluated by the nutritional support team, with NRS-2002 form, height, weight, BMI, upper middle arm circumference, and biochemical evidences. With the findings of W: 75 kg, H: 160 cm, BMI: 29.2 kg/m^2, UMAC: 11CM, and NRS score: 5, we concluded that she had to be given 1600 calories for daily requirement. We planned to give the enteral support via nasogastric feeding tube. We offered diabetic enteral products to reach the target dose gradually in 3 days. During daily follow-ups, we reached the aimed calories that should be given. On day 10, she drank water orally. On day 13, liquid food (R2) was given together with the nasogastric feeding. On day 21, solid food was added. On day 22, the nasogastric feeding tube was removed. No problem was detected related to the enteral feeding. On day 55, the enteral feeding product support was

stopped because of sufficient oral intake. On day 62, NRS score was 3. The general condition of the patient was good, and her speech was totally normal. She began to sit in the bed with the help of physiotherapy. Finally, she was discharged with some exercises given by the physiotherapy department for mobilization.

Conclusion: The improvement of malnutrition with the help of nutritional screening tests is a part of treatment of patients with CVD. The evaluation and follow-up of the feeding conditions of the patients by getting support of the nutritional support team created with a multidisciplinary approach are very important.

Keywords: Enteral, cerebrovascular disease, nutrition, palliation

PP-53

What Prevents us to Achieve the Targeted Application Speed in Tubular Enteral Nutrition Support?

Leyla Parlak[1], Derya Soysal[1], Pınar Arı[1], Barış Hazır[2], Seher Demirer[2]
[1]Clinic of Nutrition Unit, Ankara University School of Medicine, Ankara, Turkey
[2]Department of General Surgery, Ankara University School of Medicine, Ankara, Turkey

Objective: In nutritional support applications, the failure of the nutritional team to reach the targeted dose is one of the common problems. We aimed to investigate the reasons why patients who received nutritional support through enteral tubes in our hospital could not reach the targeted application rate in the nutritional treatment plan.

Methods: A total of 437 patients who were hospitalized in our hospital between January 2018 and December 2018 and who were provided with enteral support were examined by retrospective method. The rate and the reasons for not achieving the targeted implementation rate in the nutritional plan were evaluated.

Results: It was observed that 70% (307) of the patients had reached the targeted delivery rate of the nutritional team, and 30% (130) could not reach and were fed with a Causes of inability to reach the targeted dose were 20% (26) of the patient's general condition deteriorated, 19% (24) diarrhea, 12% (15) to comply with the nutritional proposal, 9% (12) aspiration/aspiration risk, 9% (12)% enteral feeding tube dislocation, 8% (10) high gastric residual, 6% (8) nausea/vomiting, 6% (8) patients discharged before reaching the target dose, 3% (4) blood glucose regulation of the patient, and 2% (3) bloating/tension sensation in the stomach and excessive gastric complaints, such as distention. In 6% (8), more than one reason was found in the same patient.

Conclusion: During the nutritional support, it is seen that the nutritional team's targeted speed is reached. The most common condition of the patient is impaired, and the patient has diarrhea. Other common obstacles are non-compliance with nutritional recommendations and aspiration from mechanical complications and dislocation of the tube. Discharging the patient without reaching the target dose is a common problem. It is thought that some of them will be practically solved by effective training and cooperation.

PP-54

The Effect of Medical Feeding on a Patient with KID Syndrome and Squamous Cell Carcinoma (SCC) of the Cheek: A Case Report

Fatma Yasemin Altunay Kuşcu[1], Burcu Beksaç[2], Taha İlhami Temizyürek[2], Ayşe Yalçın[3], Eylül Sağun[4]
[1]Clinic of Gastroenterology, Gülhane Training and Research Hospital, Ankara, Turkey
[2]Clinic of Dermatology, Gülhane Training and Research Hospital, Ankara, Turkey
[3]Nutrition Unit, Gülhane Training and Research Hospital, Ankara, Turkey
[4]Department of Nutrition and Dietetics, Başkent University Faculty of Health Sciences, Ankara, Turkey

Introduction: Keratitis-ichthyosis-deafness (KID) syndrome is a rare ectodermal congenital anomaly characterized by deafness, erythrodermic ichthyosis, and keratitis. Squamous cell carcinoma (SCC) is highly developed on a patient with KID syndrome. The aim of this report was to evaluate nutrition therapy and to emphasize multidisciplinary approaches.

Case Report: We report of a case of a patient who has KID syndrome and had a wound on his cheek lasting 6 months. The biopsy was obtained from the wound, and the pathological diagnosis was SCC. After the biopsy, the patient had developed fistula from cheek to oral cavity. It was decided to perform percutaneous endoscopic gastrostomy for feeding. Anthropometric measurements and blood biochemistry levels were evaluated. It was detected that the weight of the patient is below the lower limits, and the patient is accepted as weak. A total energy requirement was calculated to 30 kcal/kg, as is supposed to be, and the protein requirement was calculated to 1.5 g/kg considering the increased protein demand because of inflammation and tumor. Tube feeding of the patient was started with standard enteral nutrition of 10 cc/h, but the patient did not tolerate this velocity, and he vomited three times. Feeding was stopped, and endoscopy and colonoscopy were performed to evaluate the gastrointestinal mucosa. At the end of endoscopy, it was observed that the mucosa was normal. After endoscopy, tube feeding was started again with the same velocity and was supported by oral feeding with puree consistency nutrition. This protocol provided us sufficient amount of energy and protein at the end of day 5. After hospitalization in the oncology clinic, the level of C-reactive protein increased because the feeding of the patient was continued as only tube feeding.

Conclusion: The nutritional situation of the patient with KID syndrome and SCC is evaluated by the nutritionist. For effective treatment, nutrition is selected in accordance with the requirement of the patient, and the multidisciplinary approach should be considered.

PP-56

Awareness of Functional Foods and Their Relationship with Health in Patients Sixth Months after Bariatric Surgery

Selcen Şentürk
Haliç University Faculty of Health Sciences, İstanbul, Turkey

This study aimed to raise the awareness of functional foods and their relationship with health in 528 patients who underwent bariatric surgery at the Bagcılar Training and Research Hospital, Bagcilar, Istanbul between July 2016 and February 2017 and fulfilled their 6 months. When the findings were evaluated, functional nutritional awareness was high, whereas the dietitian's and specialist physician's advice stood out as the main information source about functional nutrition. While obesity was quite low in the age range of individuals who applied for this surgical procedure, the educational levels were found to be high. When the individuals were examined at the end of the 6th month, it was seen that the female individuals who participated in the research were more successful in achieving the weight loss than the male individuals, and there was a significant difference between the two groups ($p<0.05$). In addition, the tendency of anorexia was observed in the majority of patients following the procedure; thus, the importance of nutritional support after the procedure was once again raised.

Keywords: Functional nutrition, consumer, dietitian, health, food, bariatric surgery

PP-57

Enteral Nutrition is Being Overlooked in the Treatment of Neurological Disease: A Case Report

Pırıl Tuncay[1], Deniz Erdem[2], Mutlu Doğanay[3], Melike Ermenek[1], Arzu Şahna[1], Hülya Ergun[1]
[1]Clinic Nutrition Unit, Health Sciences University Ankara Numune Training and Research Hospital, Ankara, Turkey
[2]Department of Anesthesiology and Reanimation, Clinic Nutrition Unit, Health Sciences University Ankara Numune Training and Research Hospital, Ankara, Turkey
[3]Department of General Surgery, Clinic Nutrition Unit, Health Sciences University Ankara Numune Training and Research Hospital, Ankara, Turkey

Enteral nutrition (EN) is an alternative nutritional way for patients who cannot be fed through the mouth. If it is not possible to obtain food for patients with neurological disease, during the acute phase, and serious neurological dysphagia is developed, preferably, early EN with nasogastric (NG) tubes is recommended to start therapy. EN therapy should continue with swallowing therapy until safe and sufficient oral intake is possible. The application form, nutritional duration, suitability of the tube, maintenance and dressing of tubes, and usage and storage conditions of enteral formulas (EFs) must be observed in patients fed with EN. Mistakes related to usage and storage of EF play an important role in the development of malnutrition and EN-related complications. An 81-year-old male patient with a diagnosis of intracranial hematoma was followed up in the intensive care unit (NG to 4 weeks). Percutaneous endoscopic gastrostomy tube was fitted to the patient 1 month later. The target EN dose has been reached, and the patient was discharged after all treatments are completed. The feeding protocol has been established using standard (1 ml/1 kcal) EF with 16 h of continuous infusion method at home. One month later after discharge, diarrhea developed, and an abnormal laboratory parameter had been observed (stool culture-no bacterial reproduction). Diarrhea did not stop although it has been recommended to halve his nutritional dose and increase the amount of water. In the patient's detailed relative history, it was revealed that EF's mouth is kept open at room temperature for 48 h. Bacterial reproduction was thought to occur in EF with an open mouth at room temperature. The patient was referred to given training about the application, maintenance, and storage conditions of EN in the outpatient of the clinical nutrition unit. Diarrhea was stopped by responding to the correct application method.

Keywords: Enteral nutrition, nasogastric tube, percutaneous endoscopic gastrostomy, intensive care unit, home care

PP-58

Classification of Patients Hospitalized in the General Surgery and Cardiovascular Surgery Clinics According to Their Body Mass Index and Diagnosed Disease

Selim Gündüz[1], Canan Zengin[2], Aydan Özçelik[2], Ezgi Bayraktar[2], Dilek Doğan[2]
[1]Adana Science and Technology University Facult of Management, Adana, Turkey
[2]Department of Nutrition and Diet, Adana State Training and Research Hospital, Adana, Turkey

Objective: The prevalence of nutritional risk is influenced by several factors. Body mass index (BMI) is one of the important factors in the evaluation of malnutrition (those below: weak, between 18.5 and 24.9 kg/m²: normal weight, 25-29.9 kg/m² between: overweight, and 30-39.9 kg/m² between: obese)

Methods: The study was conducted with a total of 220 (124 male) individuals. Their ages ranged between 20 and 90 years. They were inpatients in Adana City Training and Research Hospital, Cardiovascular Surgery and General Surgery Clinics. To classify BMI according to the World Health Organization (WHO)'s reference interval and to define the malnutrition status of the patients. Results: According to the WHO's BMI evaluation criteria, 16.9% (n=21) of the male gender were obese. When we compared BMI in both groups, 33.9% of male and 45.2% of female patients were normal. 4% of male patients were weak. However, 39.6% of female patients were found to be obese, and 33.3% were normal. 1% of female patients was weak. There was a statistically significant difference between the BMI groups with regard to the gender of the individuals and analyzed by the likelihood ratio test ($p=0.001$). According to the multiple comparisons made to determine the origin of this difference, it was found that the proportion of women in the range of man fat was higher than that of men.

Results: Determining the nutritional status of the patients with risk scores is of great importance with regard to timely intervention to malnutrition.

Conclusion: Determining the nutritional status of the patients with risk scores is of great importance with regard to timely intervention to malnutrition.

Keywords: BMI, nutrition risk, World Health Organization

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Short Bowel Syndrome: Multidisciplinary Nutritional Therapy Can Create Miracles

İsmail Gömceli, Ayhan Hilmi Çekin, Orbay Harmandar, Nilhan Sesli Orman, Filiz Özcan, Melike Yıldız, Mihrican Şimşek, Mediha Gündoğdu, Burçin Turan, Gülhan Ülküdür
Clinic Nutrition Unit, Health Sciences University Antalya Training and Research Hospital, Antalya, Turkey

Objective: Short bowel syndrome (SBS) is a complex condition resulting from the loss of the absorptive surface of the intestines. The main reason is extensive resections due to diseases, such as mesenteric infarction. Treatment is to reduce intestinal secretions, slow down transit rate, meet nutritional needs, and provide electrolyte balance. To emphasize that the quality of life can be improved with multidisciplinary nutritional treatment of patients with SBS who are doomed to total parenteral nutrition.

Methods: With the case-analysis method, the management and results of a patient with SBS who survived the colon with approximately 30 cm of small intestine are presented.

Results: The patient was operated for mesenteric ischemia 15 days ago, with a body weight (BW) of 115 kg, approximately 30 cm of small intestine and colon postoperatively, and BMI of 26 kg/m^2 at admission, BW 85 kg, and 2.5–3 l/day drainage from jejunostomy, serum albumin 2.2 g/dL, prealbumin 10 mg/dL, and CRP 79 mg/L. The energy requirement of the patient was calculated as 2500 kcal/day, and the protein requirement was 120 g/day. SBS diet by oral route and ONS (semi-elemental and oral fibrous product) was attempted to reach the nutritional goal. Owing to the oral reluctance of the patient and increase in ostomy output, parenteral nutrition and the product, including MCT and TGFβ2, were added. Fluid intake was limited to 500 mL of oral rehydration solution. When the patient refused oral intake, he was fed with a product containing MCT and TGFβ2 by nasogastric tube. Following the drainage of the ostomy, the dose of enteral feeding was increased, and the dose of parenteral nutrition was decreased. Daily energy–protein targets were achieved until STEP operation. Preoperatively, albumin was 2.9 g/dL, prealbumin was 22 mg/dL, and CRP was 22 mg/L. On day 75 of his hospitalization, his ostomy was closed with STEP, and his needs were given by total parenteral nutrition until postoperative day 7. On postoperative day 7, oral feeding was attempted, but nasogastric tube feeding was restarted because he refused oral feeding. Standard fiber product (1 kcal/mL) was first used, and the number of stools, consistency, and tolerability was followed for passing the hypercaloric high-protein fibrous product (1.2 kcal/mL). On month 4 of admission, the plan of home nutrition was made as a combination of oral SBS diet and hypercaloric high-protein fibrous product (1.2 kcal/mL) at night with nasogastric tube feeding.

On week 2 of discharge, the nutritional consumption of the patient was evaluated. Tube feeding was discontinued because it met 60% of the daily energy demand. It was recommended to take hypercaloric high-protein fibrous product (1.2 kcal/mL) in 500 mL oral. On postoperative day 75, the patient had VA 69 kg, BMI 22 kg/m^2, albumin 3.3 g/dL, prealbumin 26 mg/dL, CRP 0.6 mg/L, and defecation number 1.

Conclusion: Although many problems are encountered in the nutritional treatment plan in a patient with severe SBS, multidisciplinary approach, close follow-up, and appropriate nutritional therapies may decrease the need to parenteral nutrition in these patients.

PP-60

Data of Tertiary Care Hospital's Nutrition Team About Enteral Nutrition

Feyzi Bostan[1], İsmail Gömceli[2], Ayhan Hilmi Çekin[3], Orbay Harmandar[4]
[1]Department of Internal Medicine, Health Sciences University Antalya Training and Research Hospital, Antalya, Turkey
[2]Department of Gastroenterology Surgery, Health Sciences University Antalya Training and Research Hospital, Antalya, Turkey
[3]Department of Gastroenterology, Health Sciences University Antalya Training and Research Hospital, Antalya, Turkey
[4]Department of Adult Intensive Care, Health Sciences University Antalya Training and Research Hospital, Antalya, Turkey

Objective: In our hospital, the nutritional support of all patients who are considered to be in need of nutritional support by their physicians is managed by the nutritional team. In this study, we aimed to present information about the demographic data, diseases, feeding routes, and their complications of the patients who were referred to our nutrition team by our adult intensive care units in 2018.

Methods: Between January 1, 2018 and December 31, 2018, 162 patients who were referred to our nutritional team by Antalya Training and Research Hospital adult intensive care unit and fed enterally by our team were enrolled in the study. Demographic data, diseases, enteral feeding routes, and their complications were recorded.

Results: 91 (56.2%) of the patients were male, and 71 (43.8%) were female. The mean age was 71±16 (20-99) years. 71 (43.8%) patients had cerebrovascular disease, 25 (15.4%) Alzheimer, 18 (11.1%) malignancy, 15 (9%) trauma, 9 (5.6%) dementia, 8 (4.9%) subarachnoid hemorrhage, 5 (3.1%) amyotrophic lateral sclerosis, 4 (2.5%) hypoxic brain, and 4 (2.5%) central nervous system infection. All patients were started to be fed enterally via nasogastric tube. Within the follow-up period, percutaneous endoscopic gastrostomy was performed in 86 (53.1%) patients. The mean time to perform percutaneous endoscopic gastrostomy was 58.4±64 (3-366) days. 83 (51.2%) patients were suspected of aspiration while being fed via nasogastric tube. Wound site infection was seen in 59 (36.4%) patients with gastrostomy.

Conclusion: We have a high aspiration rate with nasogastric tube. In addition, infection rate is high in percutaneous endoscopic gastrostomy. The high rate of infection may be due to colonization in the region of the skin where percutaneous endoscopic gastrostomy will be performed, during the hospitalization of the patients. Mean time to perform percutaneous endoscopic gastrostomy is 58 days. If percutaneous endoscopic gastrostomy is performed earlier, both nasogastric tube-induced aspiration and percutaneous endoscopic gastrostomy site infection rate may be reduced.

Keywords: Nutrition team, nasogastric tube, percutaneous endoscopic gastrostomy, enteral feeding

PP-62

Is Ketogenic Diet a Therapeutic Approach to Cancer?

Yasemin Kunduracı[1], Canan İnal Türe[2]
[1]Sakarya Provincial Health Directorate, Sakarya, Turkey
[2]Bozyaka Training and Research Hospital, İzmir, Turkey

Objective: Cancer-related nutrition studies are concentrated on metabolic pathways. Many tumor cells are glucose-dependent during anaerobic glycolysis. Given the hypothesis that malignant cells do not have the ability to metabolize mitochondrial enzymes in the presence of major metabolic changes, ketosis-forming dietary recommendations may be expected to inhibit or stop tumor growth. A ketogenic diet (KD) is known as high-fat (60%-90% of energy), low-carbohydrate diet with sufficient protein (10%-20% of energy). Developed for children with refractory epilepsy in the 1920s, KD has recently been reported to have antitumoral and anti-angiogenic effects and may be used therapeutically in patients with recurrent brain tumors. To evaluate the effects of KD on tumor cell development and survival.

Methods: Some studies on humans or animals selected with the keywords "ketogenic diet," "tumor," and "cancer" in scientific publications were examined.

Results: Most of the animal studies reported that KD inhibited tumor growth and prolonged survival. It was emphasized that the effect of omega-3 and medium-chain fatty acid changes in the amount of fat used in KD is considerable. In studies on the use of human brain tumors, especially in humans, it is reported that more comprehensive studies are needed to be used as a potential therapeutic agent.

Discussion: In patients with brain tumor with KD, the use of ketones for energy production in the brain due to ketosis is targeted. However, high ketone levels in the blood do not indicate that the ketone may pass through the brain barrier. Furthermore, KD is a diet that is difficult to consume with its high fat content, ketogenic enteral product that is likely to cause gastrointestinal problems. Complications of KD include dehydration, blood lipid profile modification, pancreatitis, hypoproteinemia, hyperuria, hypercalciuria, and kidney stones.

Conclusion: In the studies, it was observed that tumor sizes were measured in different ways, cancer types, and sample sizes, and KD was applied at different rates. The long-term and more qualified studies of the use of KD diet in cancer should be investigated with possible effect/adverse effects.

Keywords: Ketogenic diet, cancer, brain tumor

PP-63

Retrospective Analysis of Patients Followed up by Enteral Nutrition Between 2017 and 2018 in Üsküdar State Hospital Palliative Care Service

Dilek Demirlek, Mehmet Bülent Erdoğan
İstanbul Üsküdar State Hospital, İstanbul, Turkey

There is an increase in the frequency of patients who could not be fed orally because of the average life expectancy and the increasing frequency of chronic diseases and cancers. In our study, we retrospectively evaluated patients who were followed up for enteral nutrition in the Palliative Care Department of Üsküdar State Hospital between 2017 and 2018. We included patients with percutaneous endoscopic gastrostomy tube replacement who were admitted to our clinic with oral intake disturbance and decided to be fed via percutaneous endoscopic gastrostomy (PEG)+nasogastric (NG). A total of 277 patients who were admitted to our clinic for PEG replacement and for oral malnutrition were included in the study. Of the 277 participants, 67.9% (n=188) were female, and 32.1% (n=89) were male. 37.2% (n=103) of the patients were between the ages of 80 and 89 years old, 28.9% (n=80) between the ages of 70 and 79 years old, 17.7% (n=49) between the ages of 19 and 69 years old, and 16.2% (n=45) were >90 years old. The mean age of the patients was 78.46±13.11 years. 45.8% (n=127) of the patients had Alzheimer, 22.0% (n=61) SVO, 17.7% (n=49) dementia, 5.5% (n=15) Parkinson, 7.6% (21) other diseases, and 1.4% (n=4) cancer. 50.2% (n=139) of the patients who participated in the study applied for PEG replacement, and 49.8% (n=127) were admitted to our clinic with an inability of oral intake. Patients who were admitted with oral disease were monitored in our clinic and evaluated by bedside swallowing test. When patients were diagnosed with dysphagia, enteral feeding was going to be >4 weeks, and PEG application with the patient and the patient's relatives was negotiated. 45.8% (n=127) of the patients inserted PEG, and 4.0% (n=11) were applied NG tube for feeding. In 27.2% (n=3) of the patients with NG tube, PEG implementation was unsuccessful. PEG application was not accepted by 54.5% (n=6) of the patients or patient's legal successors. In 18.1% (n=2), enteral feeding was evaluated as <4 weeks. 2.3% (n=3) of the patients who applied PEG for the first time in our clinic could be fed orally afterwards. PEG is recommended for enteral feeding for >4 weeks. NG feeding is continued in patients who do not accept PEG. Compared with PEG, NG tube complications are higher, and patient comfort is lower.

PP-64

First 6 Months Experience of New Established Clinical Nutrition Unit in Gülhane Training and Research Hospital

Derya Akyazı[1], Hatice Yağmurdur[2], Ayşe Yalçın[1], Eda Gündemir[1], Ali Kağan Çoşkun[3], Ahmet Çoşar[2]
[1]Clinical Nutrition Unit, Ankara Gülhane Training and Research Hospital, Ankara, Turkey
[2]Clinical Anesthesiology and Reanimation, Ankara Gülhane Training and Research Hospital, Ankara, Turkey
[3]Clinical General Surgery, Ankara Gülhane Training and Research Hospital, Ankara, Turkey

Objective: Enteral nutrition (EB) could be defined as daily energy, protein, and fluid needs to be given to the gastrointestinal tract using oral or percutaneous tubes. In cases where EB is not possible, all or some of the nutrients required for the patient are given by way of veins defined as parenteral nutrition (PB). The aim of the present study was to evaluate the frequency of age, hospitalization, pathways, product types, and complications at the new established Clinical Nutrition Unit (KNU).

Methods: The sample of the study, which was performed with the screening model including the treated patients in our hospital, consists of 496 patients who were given E/P nutrition treatment by KNU. The study was performed by examining the forms that were formed by the CNU and the parameters specified in the objective part retrospectively.

Results: 496 (58.4% male and 41.5% female) patients received nutritional therapy with an average age of 64.36 years and a mean BMI of 26.25 kg/m^2 between June and December 2018. 62.9% of the patients were treated with EB, 32.05 with PB treatment, and 5.04% with combined nutrition therapy (E+P). According to the clinical group, the most frequent nutritional therapy was 21.7% in the Anesthesia Intensive Care Unit, followed by the Internal Medicine Intensive Care Unit (17.7%) and the Surgery Clinic (16.9%). EB treatment was provided with a maximum of 63.4% NG, whereas the most peripheral route was the most common route of treatment (67.9%). EB was the most common product (40%), followed by diabetic product (22.6%). Diarrhea developed in 7.6% of our patients, and constipation was observed in 16.5%. The reason for termination of nutritional therapy was 46.5% of the patients receiving oral intake and discharged with PEG, whereas 33.6% died.

Conclusion: Enteral route is preferred in our patients without gastrointestinal dysfunction. In cases where the enteral route is not available, nutritional therapy is provided by parenteral route. We use products with high protein content in patients with diabetic, diarrhea-constipation, fiberglass, and low prealbumin levels. As KNU, we aim to reach more patients by increasing institutional awareness with effective and applicable nutrition support.

PP-65

Consultation results of Clinical Nutrition Team of Kocaeli University Research and Practice Hospital

Neriman Elibol[1], Fatma Kürşat[2], Nuh Zafer Cantürk[3]
[1]Kocaeli University, Faculty of Health Science, Faculty of Nursing, Kocaeli, Turkey
[2]Clinical Nutrition Team, Kocaeli University Research and Practice Hospital, Kocaeli, Turkey
[3]Department of General Surgery, Kocaeli University School of Medicine, Kocaeli, Turkey

Objective: Nutritional problems, such as malnutrition, are frequently encountered problems in hospitalized patients. Having feeding problems extends the healing process, increases hospital stay, and increases mortality and costs. Nutritional support of the patient is a condition that requires a multidisciplinary approach. The main purpose of the Clinical Nutrition Team is to respond to the nutritional needs of the patients, in particular to complicated nutritional problems, and to provide support to hospital staff in providing enteral or parenteral nutrition treatment. The study was conducted by Clinical Nutrition Team of Kocaeli University Research and Practice Hospital to evaluate patients who were managed and were administered nutrition.

Methods: Data of the retrospective study were collected from patients who consulted the Clinical Nutrition Team between December 2016 and December 2018 and who underwent nutritional arrangements. SPSS 20.0 program was used to evaluate data.

Results: According to the obtained data, 60.1% of the 118 patients were male. Clinical Nutrition consultation was mostly requested from internal medical clinics (65.3%), and half of the patients (40.7%) were fed via nasogastric tube, and 28% were fed via disease-specific nutritional product. 16.1% of the patients were ex. No data related to feeding-related complications could be achieved.

Conclusion: Clinical nutrition is important for prevention of malnutrition in hospitalized patients, recovery of the patients, and reduction of cost and mortality. As a result, it was concluded that it would be beneficial to maintain the training and awareness meetings regarding the accuracy of the records and the importance of patient nutrition in all clinics of the hospital and the need for clinical nutrition consultation.

Keywords: Nutrition, clinical nutrition, malnutrition, nutrition team

PP-66

Prealbumin, Albumin, and Total Protein Values in Nutrition Patients with Nutritional Support

Hilal Doğan[1], Fatih Karaduman[2], Rıdvan Ali[3]
[1]Nutrition and Diet Unit, Bartın State Hospital, Bartın, Turkey
[2]Neurology Unit, Bartın State Hospital, Bartın, Turkey
[3]General Surgeon Unit, Bartın State Hospital, Bartın, Turkey

Objective: When patients are admitted to the intensive care unit (ICU), malnutrition is defined as a result of malnutrition or metabolic response due to serious disease. Proper administration of nutritional support in patients with malnutrition prevents complications and provides clinical, functional, and financial benefits. In practice, anthropometric measurements, laboratory measurements, and indirect calorimetry tests help assess the nutritional status; they are also known to be insensitive to changes in nutrition. In the research, it is observed that albumin is low, transferrin is moderate, and prealbumin and retinol-binding protein are highly sensitive with regard to four plasma protein levels that change in malnutrition. To prevent malnutrition, to correct and provide adequate nutrition methods, and to shorten hospital stay times of the patients

Methods: The files of 112 patients who were treated at least 21 days in the ICUs of Bartın State Hospital Intensive Care Unit between October 2, 2016 and October 20, 2017 were retrospectively reviewed by a dietitian. Data were obtained from hospital information system, ICU database, and doctor order forms. Treatment was initiated. Nutritional support; enteral, parenteral, and combined enteral-parenteral treatment of patients receiving nutrition programs; and total protein, albumin, prealbumin, and C-reactive protein (CRP) values were recorded. Prealbumin, CRP, albumin, and total protein values were compared. Patients hospitalized for longer periods were evaluated until 30 and 60 days. Demographic characteristics of the patients, diagnosis-duration, underlying diseases, Apache II and mortality scores in hospitalization, feeding times, feeding path and type, and decubitus ulcer were recorded. Target protein and caloric values and caloric and protein values were calculated. Caloric and protein values were recorded according to the products given in 1, 3, 7, and 21 days and longer periods.

Results: In patients, while albumin and total protein values did not change statistically during the feeding period, it was observed that prealbumin level increased significantly on day 21 according to day 1, and it was proven by cost analysis that positive nutrition methods were provided to the hospital pharmacy.

Conclusion: In the present study, this is one of the rare studies conducted in a provincial hospital with primary physicians and dietician observations of the patients. As a result of the study, it has been observed that practical and theory calculations do not always match. There are many factors in nutrition.

Keywords: Dietitian, hospital, nutrition

PP-67

Clinical Nutritional Approach in a Patient with ECMO

Sevan Çetin[1], Dilek Kazancı[2], Selen Özsoy[1], Şerife Koçer[1], Emre Çiçekyurt[3]
[1]Clinical Nutrition Unit, Ankara City Hospitals Cardiovascular Hospital, Ankara, Turkey
[2]Intensive Care Unit, Ankara City Hospitals Cardiovascular Hospital, Ankara, Turkey
[3]Clinic of Cardiovascular Surgery, Ankara City Hospital, Ankara, Turkey

Objective: In addition to the absence of any definition of hemodynamic instability in the guidelines, early enteral nutrition to adult critical intensive care patients within the first 48 hours is recommended, while PN is recommended within 3 or 7 days when oral intake or enteral nutrition is contraindicated. To discuss the timing and application of nutritional therapy in a patient with hemodynamic instability in whom ECMO was inserted postoperatively in KVC ICU.

Methods: The patient presented to the Emergency Department with unstable angina. The decision was made in the post-KAG council. The patient underwent triple bypass surgery and right atrial exploration. The patient underwent IABP in order to increase coronary perfusion and regulate cardiac output in the first 24 hours after the surgery. On the following day, EC ECG was used to regulate low flow and perfusion, thereby improving the patient's EF. Intermittant HD was performed in the patient who was evaluated by nephrology for anuria. Nutritional consultation was requested on postoperative day 3. The patient showed an NRS-2002 score of ≥6, height of 160 cm, and weight of 75 kg. The condition of our nutritional unit was stabilized, and a low dose EN was initiated on postoperative day 4; however, since diarrhea developed, EN was stopped and TPN was initiated on the weekend. The patient is still being followed up.

Results: Biochemical parameters of the patient on the day of consultation were as follows: glucose, 145 mg/dl; urea, 103 mg/dl; creatinine, 2.5 mg/dl; AST, 1705 U/l; ALT, 1312 U/l; total protein 46 g/l, albumin, 30 g/l; and Na, 154 mEq/l.

Conclusion: ECMO support is not an obstacle to enteral feeding in critical patients. Although it is not possible to apply a single recommendation in heterogeneous ED patients according to the guidelines, timing, administration, and monitoring of nutritional therapy should be individual specific. VA ECMO application is a bridge treatment for support or transplantation that should be applied for prolonged use in cases of serious threats, such as cardiogenic shock, post-operative cardiac function, cardiac failure, and sudden cardiac arrest. There is a need for more clinical studies on EN, for patients mostly with mechanical ventilation support and in need for nutritional requirement due to ECMO-related distortions in bowel perfusion and also if not provided the parenteral route is chosen to test different strategies.

Keywords: ECMO, hemodynamic instability, nutrition

PP-68

The Earlier the Patients are Consulted to the Nutrition Support Team, the Lower the Length of Hospital Stay they Have

Demet Yılmaz, Meltem Türkoğlu, Hanife Cüce, Ayşe İlksen Eğilmez, Güray Güvercin, Gülsüm Gönülalan, Muhammet Cemal Kızılarslanoğlu
Nutrition Support Unit, Health Sciences University, Konya Training and Research Hospital, Turkey

Objective: The numbers of the nutrition support teams in hospitals are increasing by the fact of increasing awareness of malnutrition. However, there are not enough physicians and healthcare workers working in this area in the hospitals yet. Our nutrition support team is working for 1.5 years in our hospital, and the patients who consulted to our team are increasing every day. To investigate the relationship between length of hospital stay (LOS) and consultation time, a gap from hospitalization to consulted to our team, in patients staying in our hospital.

Methods: A total of 337 patients who consulted to our team and were given enteral and/or parenteral nutritional support were included in the study. General characteristics, reasons for admission, consultation time, nutritional support ways, and LOS were examined. The correlation between LOS and consultation time was investigated. An independently associated factor for LOS was analyzed by linear regression analysis model.

Results: The median age of the patients was 76 (18–95) years (53.7% male and 49.3% at least one comorbidities). Pressure ulcer was seen in 54.3% of the patients. The wards that the patients were consulted to our team were the intensive care (61.4%), non-surgical (32.6%), and surgical (5.9%) units. The percentage of patients who had malnutrition in admission to the hospital was 78%. Median LOS was 28 (0–261) days. Median consultation time was 8 (0–112) days. There was a significantly moderate and positive correlation between consultation time and LOS ($r=0.531$, $p<0.001$). Pressure ulcer ($\beta=8.427$, $p=0.030$), consultation time ($\beta=0.850$, $p<0.001$), malnutrition ($\beta=14.741$, $p=0.003$), parenteral nutrition ($\beta=8.229$, $p=0.034$), and gastrostomy/jejunostomy ($\beta=34.470$, $p<0.001$) were found to be independently associated parameters for LOS in the linear regression analysis model.

Conclusion: It was shown in the present study that the earlier the patients are consulted to the nutrition support team, the lower LOS they have and vice versa.