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ORAL PRESENTATIONS

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SS-025

ASSESSMENT OF ENTROPY GENERATION, EXERGY DESTRUCTION, AND GLUCOSE CONSUMPTION DURING AND AFTER WEANING FROM MECHANICAL VENTILATION BY THERMODYNAMIC ANALYSIS

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Introduction: Mechanical ventilation is often life-saving but it also has risks. Thermodynamic analyses are used to test the feasibility of processes leading to a better understanding of the systems overall performance. To determine the entropy generation, exergy destruction, and glucose consumption during and after weaning from mechanical ventilation in patients by thermodynamic analysis.

Materials and Methods: A human respiratory system during and after weaning from mechanical ventilation was modelled thermodynamically using the first and second laws of thermodynamics. Work of breathing data are adapted from the literature. Mass and energy analyzes are carried out according to the 1st law of thermodynamics while entropy generation is calculated according to the 2nd law of thermodynamics which enables us to measure energy losses. In this thermodynamic model, the body temperature was considered at 37 °C, and surrounding air condition was taken at 25 °C.

Results: Exergy destructions during and after weaning from mechanical ventilation were calculated as 2.23×10^{-2} and 1.75×10^{-2} kJ/min, respectively. Entropy generation by the patients through the breathing cycle was 7.48×10^{-5} (kJ/K)/min during mechanical ventilation while 5.89×10^{-5} (kJ/K)/min after weaning from mechanical ventilation, respectively. The glucose consumed for work of breathing in patients during and after weaning from mechanical ventilation was calculated as 0.58-0.45 mmol/min, respectively.

Conclusions: After weaning from mechanical ventilation, the patients have significantly decreased entropy generation, exergy destruction and glucose consumption indicating to the improvements in structure of respiratory mechanics and diaphragm perfusion. More powerful work and multidisciplinary data are needed to progress reliable procedures.

Keywords: Mechanical ventilation, MV, respiratory entropy generation, respiratory exergy destruction, respiratory thermodynamics, work of breathing thermodynamic analysis

SS-055**THE RELATIONSHIP OF RESPIRATORY MUSCLE ENDURANCE WITH SLEEP AND FATIGUE IN INDIVIDUALS WITH OBESITY HYPOVENTILATION SYNDROME**

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Introduction: Obesity Hypoventilation Syndrome (OHS) is an important respiratory disorder characterized by excessive daytime sleepiness and fatigue. The aim of this study was to evaluate respiratory muscle endurance in individuals with OHS and to investigate its relationship with sleep and fatigue.

Materials and Methods: Forty patients with OHS diagnosed by polysomnographic evaluation by Chest Diseases Specialist were included in the study. Demographic and clinical characteristics of the patients were recorded. Respiratory muscle endurance measurement was performed with inspiratory muscle training device and increased threshold load test protocols were applied. The increased threshold load test was initiated with 20% of the maximum inspiratory pressure. The pressure was increased to 40%, 60%, 80% and 100% every two minutes, respectively. The maximum pressure load that the patient was able to withstand for at least one minute was recorded in cm H₂O. Daytime sleepiness was assessed by Epworth Sleepiness Scale (ESS) and sleep quality was assessed by Pittsburgh Sleep Quality Index (PSQI). Fatigue Severity Scale (FSS) was used to evaluate the degree of fatigue.

Results: The mean age of the patients was 49.07±10.92 years. A moderate negative correlation was found between respiratory muscle endurance and ESS, subjective sleep quality, habitual sleep efficiency, total PSQI score, and FSS (respectively; $r=-0.395$, $p=0.012$; $r=-0.462$, $p=0.003$; $r=-0.385$, $p=0.014$; $r=-0.421$, $p=0.007$; $r=-0.399$, $p=0.011$).

Conclusions: According to the results of our study, subjective sleep quality and habitual sleep efficiency increase and daytime sleepiness and fatigue decrease with increasing respiratory muscle endurance in OHS cases. Therefore, we think that respiratory muscle endurance evaluation should be taken into consideration when organizing pulmonary rehabilitation programs and further studies are needed to evaluate rehabilitation outcomes in a wider sample

Keywords: Fatigue, obesity hypoventilation syndrome, respiratory muscle endurance, sleep

SS-056**COMPARISON OF RESPIRATORY MUSCLE PERFORMANCE, FUNCTIONAL EXERCISE CAPACITY AND QUALITY OF LIFE IN INDIVIDUALS WITH OBESITY HYPOVENTILATION SYNDROME AND SIMPLE OBESE INDIVIDUALS**

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Introduction: In obese individuals, excess fat tissue on the chest wall and abdomen compresses the thorax, diaphragm and lungs. It is reported that respiratory muscle performance decreases due to this mechanical effect. It is also known that the increase in fat ratio negatively affects functional exercise capacity and quality of life. The aim of this study is to compare the respiratory muscle performance, functional exercise capacity and quality of life of individuals with obesity hypoventilation syndrome (OHS) and simple obese individuals.

Materials and Methods: The study included 20 individuals with OHS whose body mass index (BMI) between 30 kg/m² and 40 kg/m², diagnosed by polysomnographic evaluation and 20 simple obese individuals in the same BMI range. Demographic and clinical data of the subjects were recorded. Respiratory muscle endurance was evaluated by increasing threshold load test using inspiratory muscle training device, and respiratory muscle strength was measured by intraoral pressure measurements. The results were recorded in cm H₂O. Six-Minute Walking Test (6 MWT) was used to assess functional exercise capacity, and EQ-5D General Quality of Life Scale was used to assess health-related quality of life. Mann-Whitney U test was used to compare the differences between the groups.

Results: The mean age of simple obese individuals was 48.85±14.19 years and OHS cases was 52.95±9.53 years. Respiratory muscle endurance of simple obese individuals (36.25±15.58 cm H₂O) was significantly higher than those with OHS (27.85±15.54 cm H₂O) (p=0.025). Maximum inspiratory pressure and nasal inspiratory pressure values were higher in simple obese subjects compared to those with OHS, but the difference was not significant (p=0.534, p=0.542, respectively). There was no significant difference between the groups in terms of 6 MWD and EQ-5D General Quality of Life Scale scores (respectively; p=0.387, p=0.702).

Conclusions: According to the results of our study, the presence of hypoventilation negatively affects the respiratory muscle endurance in obese subjects with similar BMI, but it has no significant effect on respiratory muscle strength, functional exercise capacity and quality of life.

Keywords: Functional exercise capacity, obesity hypoventilation syndrome, respiratory muscle performance, quality of life

SS-068**PNEUMONIA IN PATIENTS OLDER THAN 65 YEARS OF AGE WHO REQUIRES HOSPITALIZATION: A SINGLE CENTER EXPERIENCE**

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Introduction: Human lifespan has been extended worldwide. The population growth rate is greater among the elderly than the general population. The percentage of elderly people in our society has reached an all-time high. Age is one of the most important risk factors for pneumonia. The aim of the present study was to evaluate patients over the age of 65 years with pneumonia requiring hospital admission with respect to clinical properties, disease severity, etiological distribution, prognosis, and mortality.

Materials and Methods: This retrospective study enrolled patients older than 65 years of age who were hospitalized at the department of chest diseases for pneumonia between 01 October 2016 and 31 December 2017. The patients demographic and clinical properties, radiological and laboratory examinations, microbiological agents, prognosis, and mortality rates were recorded.

Results: Among 78 enrolled patients, 55 (70.5%) were male; their mean age was 74 (65-96) years. There was a history of comorbidity in 94.9% of the patients. Nineteen (24.4%) patients had been vaccinated against influenza and 7 (9.0%) against pneumococci. The most common symptom was fever (87.2%) and cough (75.6%). Thirteen (16.7%) patients had altered consciousness as the presenting symptom. Ten (12.8%) patients had suspected aspiration, with the most common cause being difficulty swallowing in 6 (7.7%) patients. Leukocytosis was present in 55 (70.5%) patients; twenty-nine (37.2%) patients had a procalcitonin level above 2. The most common radiological sign, in descending order, was unilateral infiltration, bilateral+multilobar infiltration, and unilateral+multilobar infiltration (41%, 21.8%, and 20.5%, respectively). Pneumonia severity index (PSI) was 4.2±1.10 and CURB-65 index was 1.6±1.21. In 28 (35.8%) patients the causative organism was determined. The most commonly isolated bacteria were *Streptococcus pneumoniae* 7 (25%) and *Haemophilus influenzae* 6 (21.4%), with the rate of gram-negative bacteria being 19 (67.8%) higher. Twenty-nine (37.2%) patients needed intensive care. Fifty-five (71.8%) patients showed complete recovery after treatment while 15 (19.2%) patients had pneumonia with delayed resolution and 8 (10.2%) patients died.

Conclusions: In our study, among patients with pneumonia necessitating hospital admission, the rate of comorbidities, admission disease severity, and radiological multilobar involvement were higher. The rates of influenza and pneumococcal vaccination were low. Although the most common etiological agents were *Streptococcus pneumoniae* and *Haemophilus influenzae*, the rate of gram-negative bacteria was also high. The mortality rate was 10.2%.

Keywords: Pneumonia over the age of 65 years, prognosis, mortality

SS-069**HEMOPTYSIS EXPERIENCE IN YEDIKULE HOSPITAL OF CHEST DISEASES AND THORACIC SURGERY TRAINING AND RESEARCH HOSPITAL: 152 CASES**

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Introduction: The aim of this study was to evaluate the results of 152 patients with hemoptysis in Yedikule Chest Diseases and Thoracic Surgery Training Research Hospital between 2017-2019.

Materials and Methods: Patients hospitalized in our intensive care unit with a preliminary diagnosis of hemoptysis were evaluated. The patients were evaluated according to age, sex distribution, amount of hemoptysis, underlying causes, etiologic distribution of hemoptysis and other concomitant diseases.

Results: Of the 152 patients admitted to our unit between 2017-2019, 133 were male (87%), 19 were female (13%), and the mean age was 53.6 (15-90) years. According to the etiologic classification, 56 (37%) lung cancer, 27 (17%) tuberculosis active/sequelae, 25 (16%) bronchiectasis, 12 (7%) pneumonia, 5 (3%) hydatid cyst, 2 (1.3%) aspergilloma 2 (1.3%) bullous lung, 2 (1.3%) Behçet's disease, 1 (0.7%) liver cirrhosis, 1 (0.7%) pulmonary embolism was diagnosed. The prevalence of chronic diseases was 33 (21%) chronic obstructive pulmonary disease, 32 (21%) hypertension and 10 (6%) diabetes mellitus. Eleven (7%) patients had anticoagulant medication (warfarin, acetyl salicylic acid, etc.). Considering the amount of hemoptysis bleeding, 18 (11%) were massive (>600 ml), 54 (35%) were severe (100-600 ml), 35 (23%) were moderate (30-100 ml), 45 (29%) were evaluated as mild bleeding.

Conclusions: Hemoptysis is an important and stimulating symptom that is frequently seen in respiratory system diseases and may be seen in some systemic diseases. Recurrent and massive hemoptysis can be life-threatening. In this process, patients may need intensive care. Hemoptysis is a symptom that requires a multidisciplinary approach, coordination of the units will increase the chance of success in both the diagnosis and treatment process.

Keywords: Hemoptysis, intensive care, retrospective

SS-071**ASSESSMENT OF CUFF PRESSURE TRAINING COMPETENCY OF NURSES WORKING IN INTENSIVE CARE UNITS**

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Appropriate cuff pressure is securing the tube in the correct position and ensuring adequate ventilation of the patient. Correct adjustment of pressure and cuff exercises with sufficient frequency prevents complications such as fistula formation, tracheal stenosis, mucosal damage, aspiration, and infection. In this study, we aimed to evaluate the adequacy of education and experience of nurses who working in our ICU about following cuff pressure, maintenance intubation, and tracheostomy. Forty-two of the nurses who have already worked in our hospital ICU agreed to participate in our study. Questions were asked by questionnaire formation. Our questionnaire was evaluated by face to face interview. Most of the participants had graduated from university (n=28% 66.7), 9 of them were high school graduates (21.4%) and 5 of them had postgraduate education (11.9%). In the question of what is cuff function, 13 nurses answered as fixing the tube, 8 nurses answered as preventing air leakage, and 13 people answered as all of them. 26 percent of the nurses stated that they did not receive cuff pressure training during their education. There were 33 nurses who had knowledge about cuff exercises. 9 nurses had not heard of cuff exercise before. The number of staff with intensive care certificate in our country is unfortunately not enough. For this reason, we believe that it is necessary to raise awareness of the application of cuff exercises at every stage of nursing education. Regardless of the education level of cuff pressure education, it was concluded that nurses working in our ICU had lack of knowledge and lack of training in cuff pressure monitoring and cuff exercises.

Keywords: Cuff pressure, cuff exercises, intensive care nursing, intubation

SS-075**INVESTIGATION OF THE EFFECTS OF UPPER EXTREMITY ROBOTIC REHABILITATION APPROACH ON RESPIRATORY MUSCLE STRENGTH IN STROKE**

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Introduction: In neurologic diseases, inspiratory function impairment may occur as a result of affect central nervous system, peripheral nerves and muscles. A decrease in respiratory system compliance increases the respiratory function. In individuals with neurologic disease; strengthening of inspiratory muscles prevents negative changes in vital capacity. This study was aimed to increase the respiratory workload by increasing the use of upper extremity and to increase respiratory capacity and respiratory muscle strength.

Materials and Methods: The study included 39 patients. Participants were treated with upper extremity robotic rehabilitation therapy for 8 weeks, 3 days a week, 30 minutes a day. Participants' participation in physical activity was assessed with the Stroke Impact Scale 3.0 using respiratory muscle strength (maximal inspiratory pressure; MIP and maximal expiratory pressure, MEP) Carefusion Micro RPM.

Results: MIP values of stroke patients before and after treatment were as follows; 51.3 ± 21.2 and 63.6 ± 24.3 cm H₂O and MEP were 66.1 ± 19.3 and 80.1 ± 18.5 cm H₂O. The mean values of physical activity were 52.6 ± 14.4 before the treatment and 81.2 ± 12.6 after the treatment. When MIP and MEP values of stroke patients were compared a statistically significant increase was observed ($p < 0.001$). There was a significant decrease in the difficulty in physical activity ($p < 0.001$).

Conclusions: In the light of these findings upper extremity robotic rehabilitation applications usage in stroke patients increase their respiratory muscle strength and physical activity levels. We think that it would be beneficial to increase the upper extremity functions to provide additional benefit to the stroke patients respiratory muscle strength.

Keywords: Physical activity, respiratory muscle, physiotherapy care

SS-077**CHANGES IN FUNCTIONAL EXERCISE CAPACITY, DYSPNEA, PULMONARY FUNCTIONS, MUSCLE ENDURANCE AND PHYSICAL ACTIVITY LEVELS IN ELDERLY PATIENTS WITH ASTHMA: PILOT STUDY**

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Introduction: Asthma is a one of highly prevalent chronic obstructive respiratory disease. Although it is mostly known as a disease of childhood, asthma prevalence in older adults have been increasing due to longer life expectancy. To investigate the effects of asthma disease on functional exercise capacity, dyspnea, pulmonary functions, muscle strength and physical activity levels in elderly asthmatic patients.

Materials and Methods: This study included 27 elderly individuals who divided into Asthma Group (AG) (11 elderly asthmatics, 10F/1M, 69.63±5.42years old) and Control Group (CG) (16 non-asthmatic elderly, 10F/6M, 72.50±6.61years old). Functional exercise capacity, dyspnea, pulmonary functions, quadriceps muscle endurance, physical activity level and risk for falling were assessed with six-minute walking test (6MWT), Medical Research Council Dyspnea Scale (MMRC), Spirodoc[®] Spiro spirometry, sit to stand test, Physical Activity Questionnaire for Elderly (PASE), Time Up and Go Test (TUG) and Falls Efficiency Scale (FES), respectively.

Results: This study showed that AG had statistically lower functional exercise capacity and higher MMRC scores compared to CG ($p<0.05$). Although there was no statistically difference in Forced Vital Capacity (FVC) and Forced Vital Capacity in 1-second (FEV1), Peak Expiratory Flow (PEF) was statistically higher in the CG ($p<0.01$). Moreover, statistically decreased quadriceps muscle endurance and PASE results were observed in the AG ($p<0.05$). Lastly, patients in AG had statistically higher falling risk according to FES and TUG scores ($p<0.05$).

Conclusions: The current study revealed that older patients with asthma had decreased functional exercise capacity, PEF, quadriceps muscle endurance, and physical activity levels compared to their peers. Moreover, increased dyspnea and risk for falling were observed in AG. We may conclude that increased dyspnea may be considered as the reason for physical inactivity, decrease in walking distance and quadriceps muscle endurance. These changes may explain the why there was higher risk for falling in older asthmatics. According to study results, elderly asthmatics should be routinely assessed in terms of not only pulmonary functions but also physical fitness parameters. As a conclusion, elderly asthmatics may be referred to pulmonary rehabilitation units to prevent more dyspnea, physical inactivity and falling.

Keywords: Dyspnea, elderly asthmatics, functional exercise capacity

SS-082**ANTIFIBROTIC TREATMENT IN PATIENTS WITH IDIOPATHIC PULMONARY FIBROSIS:
OUR EXPERIENCE IN 41 CASES**

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Introduction: It has been shown that antifibrotic agents (pirfenidone, nintedanip) used in the treatment of Idiopathic Pulmonary Fibrosis (IPF) in recent years decelerate the worsening of pulmonary function tests and the progression of disease and also reduce the frequency of attacks and hospitalizations. In this study, we aimed to evaluate the results of antifibrotic treatment having been used since 2013 in our clinic.

Materials and Methods: Forty-one patients diagnosed as IPF between 1.8.2013-1.2.2019 in the 8th clinic of our hospital were included in this study. The informations of the patients were obtained from the patient files. Data were analyzed by descriptive statistical methods, Kolmogorov Simirnov test and Wilcoxon test.

Results: 38 patients were male and 3 patients were female. The mean age was 65.6±7.0 years. The diagnosis of 34 patients were made by clinically and radiologically and 7 patients were diagnosed by pathologically. The longest usage time of antifibrotic drug was 5.5 years in 2 patients, and the minimum usage time was 6 months in 2 patients. 34 patients were using pirfenidone and 7 patients were using nintedanip according to the data of their last visit. There was no significant difference between the baseline 6 Minute Walk Test results and the 6th month, 1st year, 2nd year, 3rd year, 4th year results. A significant decrease was determined in DLCO results of the sixth month and first year compared to baseline (baseline 63%, 6th month 57%, 1st year 43%) (p<0.05). There was no significant difference in DLCO results of the second, third and fourth year compared to baseline (p>0.05). A significant decrease was determined in FVC results of the second year compared to baseline (68% and 59%, respectively) (p<0.05). There was no significant difference in the FVC results of the sixth month, first year, third year and fourth year compared to baseline (p>0.05).

Conclusions: Similar to the literature, we have experienced that antifibrotic drugs decelerate the progression of disease, reduce the risk of developing attacks and they are more safety in terms of side effect profile compared to the previous treatments.

Keywords: Antifibrotic drug, idiopathic pulmonary fibrosis, progression

SS-083**EVALUATION OF PULMONARY INVOLVEMENT IN SYSTEMIC RHEUMATIC DISEASES WITH HIGH-RESOLUTION COMPUTED TOMOGRAPHY AND PULMONARY FUNCTION TEST**

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Introduction: The objective of this study was to investigate the clinical and radiological features and pulmonary function tests (PFTs) in patients with the pulmonary involvement of systemic rheumatic diseases (SRDs).

Materials and Methods: This study was conducted as a retrospective, descriptive and single center study. Patients who were diagnosed with a SRD and admitted/referred to the department of chest diseases of a tertiary hospital between 2015 and 2019 were enrolled. All patients were evaluated using high-resolution computed tomography (HRCT) and PFT.

Results: This study included 68 patients (15 males, 53 females) with a mean age of 62.38±12.4 years. Rheumatoid arthritis (RA), systemic lupus erythematosus (SLE), mixed connective tissue disease (MCTD) patients were more commonly symptomatic, most of the sjögren's syndrome (SS) patients were asymptomatic. Although 30 (44.1%) patients were asymptomatic and 30 (44.1%) patients had normal PFTs, more than one imaging finding was found in all patients according to the HRCT imaging. Bronchiectasis was the most common, followed by chronic fibrotic changes and peribronchial thickening in RA. Chronic fibrotic changes and peribronchial thickening are common changes in SS. Peribronchial thickening is the most in SLE, as for the SSc, chronic fibrotic changes, interlobular septal thickening, and pleural effusion are the most common findings in HRCT.

Conclusions: The pulmonary involvement in SRDs can present with various symptoms and radiological images, event in asymptomatic patients. The PFTs can be normal as well as an obstructive, restrictive or mixed pattern can be seen. Several (heterogeneous) HRCT findings can be seen.

Keywords: Rheumatoid arthritis, systemic lupus eritematosus, sjögren's syndrome, systemic sclerosis, pulmonary involvement, high-resolution computed tomography

SS-084**COULD HIF-1A BE A NOVEL BIOMARKER FOR THE CLINICAL COURSE AND TREATMENT OF PULMONARY EMBOLISM?**

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Introduction: Pulmonary embolism (PE) is associated with high morbidity and mortality rates if not diagnosed and treated rapidly. There is ongoing debate regarding treatment course and planning in patients with massive and submassive embolism. The aim of our study was to investigate the relationship between levels of hypoxia-induced factor-1 alpha (HIF-1 α) and clinical course and prognosis in patients with low-risk submassive, high-risk submassive, and massive PE.

Materials and Methods: The study included 240 subjects in 4 groups: a healthy control group (n=60), low-risk submassive PE group (n=60), high-risk submassive PE group (n=60), and massive PE group (n=60). Peripheral venous blood samples (5 cc) were collected from all patients at time of diagnosis and after 72 hours of treatment. Plasma HIF-1 α levels were measured using commercial enzyme-linked immunosorbent assay (ELISA) kit.

Results: Comparison of presenting HIF-1 α levels revealed a statistically significant difference between the groups in proportion to clinical scoring (p=0.001 for all). There was no statistically significant difference in HIF-1 α levels between the patient groups and the control group after 72 hours of treatment (p=0.278, p=0.7, p=0.65). Comparison of initial HIF-1 α and troponin levels in submassive high-risk PE patients given thrombolytic therapy and those treated with enoxaparin sodium showed that HIF-1 α levels were significantly higher in the group that received thrombolytic therapy (p=0.001), while there was no difference in troponin levels (p=0.146).

Conclusions: HIF-1 α can be used in the clinical scoring and monitoring of PE and may also serve as a valuable early indicator in submassive high-risk PE, for which early reperfusion therapy is important.

Keywords: HIF-1 alpha, pulmonary thromboembolism, hypoxia

SS-095**THE EFFECT OF BRONCHIAL ARTERY EMBOLIZATION PROCEDURE ON EARLY RECURRENCE IN MASSIVE AND NON-MASSIVE HEMOPTYSIS**

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Bronchial artery embolization (BAE) has been used as an effective and minimally invasive procedure in selected patients in order to provide hemorrhage control in massive hemoptysis as well as in non-masive hemoptysis in recent years. In this study, we aimed to evaluate the factors affecting early recurrence in patients undergoing BAE with hemoptysis. 149 patients admitted to our emergency department with hemoptysis in the last two years were included in the study. Eleven patients with hemoptysis due to oral anticoagulant use were excluded from the study. The files of 28 patients who underwent BAE procedure in the remaining 138 patients were reviewed retrospectively. Demographic characteristics, etiologies causing hemoptysis, amount of hemoptysis, additional diseases, FOB and Thorax CT findings, BAE procedure reports, postoperative complication findings, hospitalization or emergency department admissions for hemoptysis in the first month after embolization were examined. Bleeding amount of 100 ml or more was defined as massive hemoptysis. Statistical analysis was performed using SPSS for Windows 22.0 and $p < 0.05$ was considered significant. 111 patients (80.4%) were male and the mean age was 55.1 ± 16.0 (18-89) years. In 78.2% of our patients, the most common cause of bleeding in the smoker, massive and non-masif group was bronchiectasis. BAE procedure was performed after an average of 11.3 ± 7.3 days. After the procedure, 5 patients had early recurrence, 6 patients had minor complications and 1 patient had major complications. Recurrent cases were younger than those without recurrence, the amount of hemoptysis and previous pulmonary tuberculosis were higher and not statistically significant. Pneumonectomy was performed in one patient after BAE because of continued bleeding due to Aspergilloma. In conclusion, BAE is seen as an effective, minimally invasive procedure with low incidence of adverse effects in selected cases of massive and non-masive hemoptysis. In addition, the fact that more than half of our patients smoker and the prevalence of tuberculosis in our country decreased, but bronchiectasis due to previous pulmonary tuberculosis in the etiology of hemoptysis shows the importance of prevention the both public health problems.

Keywords: Bronchial artery embolization, hemoptysis, recurrence

SS-099**RETROSPECTIVE EVALUATION OF THE PATIENTS WITH STAGE 1 AND 2 MALIGNANT PLEURAL MESOTHELIOMA PATIENTS: SINGLE-CENTER EXPERIENCE**

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Introduction: Malignant mesothelioma originates from mesothelial cells of pleura, peritoneum, pericardium or tunica vaginalis. Asbest and erionite exposition are the most important risk factors for the development of malign pleural mesothelioma (MPM). In the present study, we aimed to investigate the treatment choices and recurrence patterns in patients with clinical stage 1 and 2 MPM in our center.

Materials and Methods: Thirty-seven patients diagnosed as stage 1-2 MPM in the Department of Medical Oncology, Faculty of Medicine, Uludağ University between 2010 and 2018 were included in this study. The patients were staged using MPM TNM staging AJCC 8th edition.

Results: Eighteen of the 37 patients were male, and the mean age of the patients was 59.0±11.2 years. After clinical evaluation, 30 patients had stage 1, and 7 patients had stage 2. There were 7 patients who underwent surgery directly without induction chemotherapy and 30 patients received induction chemotherapy. Median disease-free survival was 14.6 months (CI: 95% 10.0; 19.1). The median overall survival (OS) was 25.4 months (CI 95% 19.0; 31.7).

Conclusions: The low number of cases, preferring pleurectomy with decortication (PD) surgery instead of extrapleural pneumonectomy (EPP), having more patients with stage 1, fewer patients with stage 2, and no patients with stage 3A disease may have caused not to detect a statistically significant difference in subgroup analysis. Although current treatment approaches improve both OS and PFS, social awareness is important to minimize environmental and occupational exposure to asbestos.

Keywords: Asbestos, stage 1-2 malignant pleural mesothelioma, multidisciplinary councils

SS-108

RETROSPECTIVE ANALYSIS OF POSTSURGICAL OUTCOMES OF PATIENTS OPERATED WITH THE DIAGNOSIS OF PULMONARY HYDATID CYST

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Introduction: Hydatid cysts may occur in almost every organ and tissue of human body. Because they can be found in more than one organ/tissue, sometimes many operations may be needed for them and surgical intervention may be required due to complications secondary to hydatid cyst surgery. In this study we retrospectively evaluated the surgical outcomes of patients who were operated with the diagnosis of hydatid cyst between 2008 and 2018.

Materials and Methods: Ninety-three operations were performed in 84 patients due to pulmonary hydatid cysts. Data on patient files retrieved from the hospital information management system or archive were analyzed retrospectively.

Results: Forty-four of them were male (52.4%), 40 were female and their mean age was 44 (5-85) years. Twenty-two (26.2%) patients were asymptomatic and 62 (73.8%) were symptomatic. Hydatid cysts were located in right hemithorax in 45 (53.6%) patients, in left hemithorax in 30 (35.7%) patients and bilaterally in 9 (10.7%) patients. Twenty-six patients (31%) had both pulmonary and hepatic hydatid cysts. Posterolateral thoracotomy and cystotomy-capitonnage were the most common methods (89.3%), 9 patients (10.7%) underwent wedge resection. Four patients developed atelectasis, 2 patients had hydropneumothorax, 4 patients had isolated prolonged air leak, 1 patient developed massive pulmonary embolism, and 1 patient developed Aspergillus infection the quilted cavity.

Conclusions: Hydatid cyst disease has still been a serious health concern in Turkey. When the careful and experienced surgeons perform the operations, the postoperative period is usually uneventful and morbidity is extremely low.

Keywords: Hydatid cyst, morbidity, cystotomy, capitonnage

SS-110**RISK FACTORS FOR MORTALITY IN PATIENTS WITH ACQUIRED NON MALIGNANT ACQUIRED TRACHEOESOPHAGEAL FISTULA**

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Introduction: Optimal choice of therapeutic intervention is still controversial for benign tracheoesophageal fistula (TEF). Although mortality rate of surgery is high, maintaining the airway security can't be achieved without surgery.

Materials and Methods: Data of 17 non-malignant cervical TEF patient who went surgery between January 2013 and August 2019 were retrospectively evaluated. Esophagus was repaired primary in 16 patient and with gastric transposition in one. Trachea was repaired primary (segmental resection and end-to-end anastomosis) in 14 cases, mucosal graft was used for extensive damage of the membranous side of the trachea in 3 patients. Only 4 patients (23.5%) were weaned, other 13 operated because of uncontrolled infection and lack of airway patency.

Results: Although TEF recurrence was seen in only two cases (11.7%), 6 patients (35.3%) died within postoperative 90 days. Only two cases died related to TEF. The most common cause of death was pneumonia and multiple organ failure. The presence of cerebral traumatic injury or central nervous system diseases ($p=0.028$) and above 40 years of age ($p=0.009$) were related to mortality significantly. The risk of mortality was low in patients with a short interval between diagnosis and treatment clearly, however, the result was not statistically significant ($p=0.062$).

Conclusions: Even though, this retrospective study may not be as capable as a prospective cohort but it reveals that mechanically ventilated desperate patients may derive benefit from surgery with a admissible recurrence rate. However surgeons should not be impatience for the patients who were still need to mechanical ventilation support, especially by reason of traumatic brain injury or cerebrovascular disease.

Keywords: Tracheoesophageal fistula, tracheal excessive damage, tracheostomy

EP-125

EVALUATION OF ANXIETY AND DEPRESSION IN IDIOPATHIC PULMONARY FIBROSIS

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Introduction: Idiopathic pulmonary fibrosis (IPF) is a chronic, progressive, non-curative disease with unknown etiology and mostly seen in older adults with a mean life span of 2.5-3.5 years. Because the symptoms such as dyspnea, cough deteriorating quality of life, desaturation associated with progression, and the lack of a definitive treatment of the disease, tendency of depression and anxiety increases in patients. Depression is 1.5-7 times more common in patients with chronic diseases than in the general population. In our study, we planned to determine the depression and anxiety levels of IPF patients treated 8 th clinic of hospital by using Hospital Anxiety and Depression Scale (HADS) applied in the last visits.

Materials and Methods: 27 IPF patients followed up and treated in the 8th clinic of our hospital were included to study. Demographic characteristics, pulmonary function tests, GAP (Gender, Age, and Physiology) indexes, 6-minute walk test (DYT/mwt) values, and HADS scale applied at the last visit were recorded from the patient files.

Results: 26 patients were male and 1 patient was female. The mean age of the patients was 65.6±7.6 years. 14.8% of the patients were still smoking, 66.7% had quit smoking and 18.5% had never smoked. The average GAP index was 3. All patients were on antifibrotic therapy. The mean anxiety score of the patients was 4 and the mean depression score was 5. Anxiety was found in 33.3% of patients and depression was found in 37% of the patients. Desaturation rate was significantly higher in the patients with anxiety than the non-anxiety group ($p<0.05$). DLCO levels were detected lower in the depression group than the non-depression group ($p<0.05$). Desaturation rate was found higher in the patients with depression than patients without depression ($p<0.05$).

Conclusions: Anxiety and depression are comorbid diseases associated with IPF. In our study, it was found that desaturation emerged in IPF significantly contributed to progressing anxiety and depression and mortality was found high in IPF patients with higher depression. Psychiatric evaluation of the patients diagnosed with IPF will improve the quality of life of the patients.

Keywords: Anxiety, depression, idiopathic pulmonary fibrosis (IPF)

SS-140**RETROSPECTIVE ANALYSIS OF SMOKING CESSATION PROGRAM IN AVIATION PERSONNEL**

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Introduction: Many chemicals are released during combustion of tobacco. Smoking leads to COPD and lung cancer. Because of many health hazards, we carry out training and treatment efforts to reduce the use of tobacco products by aviation personnel. In this study, we aimed to evaluate our smoking cessation program retrospectively.

Materials and Methods: Our study was planned as a cross-sectional retrospective study. The records of the Smoking Cessation Polyclinic between January 01, 2016 and April 30, 2018 analyzed in this study. Patients demographics, smoking attitudes, cessation method, Fagerström, anxiety and depression scales were evaluated. Kolmogorov-Smirnov normality test is done for all parameters. Independent Samples T-Test or Mann-Whitney-U test were used in between-groups analyzes. Chi-Squared test were used for testing relationships between categorical variables.

Results: 142 patients were included in this study and 3 of them were female. All female and 38.9% of male quit smoking. Overall success rate was 40.1%. The duration of smoking was higher, the first and last measured CO values were lower, and the follow-up periods were longer in the quitters' group ($p < 0.05$). The cigarettes smoked per day and Fagerström scores were higher in the non-quitters' group ($p > 0.05$). Success rate was slightly increased with education duration ($p > 0.05$). Married patients' success rate was higher than single or separated patients ($p > 0.05$). The highest success rate was achieved in the Varenicline group ($p < 0.001$).

Conclusions: The use of tobacco products in aviation personnel is similar to that of the normal population. Although the fight against tobacco addiction is very difficult, we believe that our efforts will improve the health of aviation personnel.

Keywords: Smoking cessation polyclinic success, fagerström scale, depression scale, anxiety scale, nicotine addiction, aviation personnel

SS-150

FACTORS THAT AFFECT THE LEVEL OF PHYSICAL ACTIVITY IN PATIENTS WITH COPD

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Introduction: Physical activity level is a strong indicator of mortality in patients with COPD. Therefore, it is critical to examine the factors affecting the level of physical activity. The aim of our study was to determine the factors affecting the level of physical activity in patients with COPD.

Materials and Methods: The short form of international physical activity questionnaire (IPAQ-SF) was used for determining the level of physical activity. The perceived dyspnea was determined by the medical research council dyspnea scale (MRC). The fatigue severity scale (FSS) and fatigue impact scale (FIS) were used to determine fatigue. The short form-36 health survey (SF-36) was used to evaluate health-related quality of life (HRQOL). St George's Respiratory Questionnaire (SGRQ) was used to measure health impairment in patients with COPD. The stepwise regression analysis was used to predict the factors that affect the level of physical activity.

Results: All 56 patients were male. The mean age and BMI of the patients were 60.88 ± 4.73 and 26.47 ± 4.77 , respectively. The best model was included the severity of fatigue and MRC score as significant unique contributors ($p < 0.001$). The model was significant ($F = 38.42$, $df = 53$, $p < 0.001$) and explained 59% of the variance ($Adj R^2 = 0.59$) in the level of physical activity. It showed that not only severity of fatigue ($B = -23.69$), but also MRC score ($B = -196.02$) were negatively correlated with IPAQ-SF, and they contributed independently to the prediction of the level of physical activity for patients with COPD ($p < 0.001$).

Conclusions: Dyspnea is limiting physical activity in patients with COPD. On the other hand, Fatigue leads to declines in emotional, psychosocial, and physical function. In this study, we found that both dyspnea and severity of fatigue could predict the physical activity level of patients with COPD. Additionally, health-related quality of life was adversely affected by increased inactivity. This supports that it is important to determine the level of physical activity and the factors that decrease it. In conclusion, we recommend that it is necessary to determine the factors that affect the physical activity level of the patients and to establish disease management based on this.

Keywords: Physical activity, dyspnea, fatigue, COPD

SS-153**EVALUATION OF SLEEP QUALITY OF PATIENTS WHO ADMIT TO INTERNAL MEDICINE OUTPATIENT CLINIC**

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Introduction: The aim of this study was to determine the sleep quality and the factors affecting sleep quality in patients admitted to the internal medicine outpatient clinic.

Materials and Methods: The study was conducted between 1 July 2019 and 15 July 2019 with a face-to-face questionnaire to the patients who applied to the internal medicine outpatient clinic of Harran University. Descriptive questionnaire and Pittsburgh Sleep Quality Index (PSQI) and Epworth Sleepiness Scale (ESS) were used in the study.

Results: 112 (48.0%) male and 121 (51.9%) female patients with a mean age of 38.5 ± 16.3 (14-86) were included in the study. The total PSQI mean was 4.9 ± 3.0 and the score range was 0-15. The rate of those with poor sleep quality is 48.9%. The mean score of ESS was 5.0 ± 3.6 , and 12 (30%) of the patients admitted to the outpatient clinic experienced excessive sleepiness during the day. Gender of the participants ($p=0.800$), income level ($p=0.113$), the size of the house they were living in ($p=0.783$), body mass index ($p=0.491$) and comorbid diseases ($p=0.803$) did not affect sleep quality; number of people living in the same house had an effect on sleep quality ($p<0.001$). It was concluded that sleep quality decreased as the number of people living at home decreased.

Conclusions: We found that half of the patients admitted to the internal medicine outpatient clinic had poor sleep quality. We also found that as the number of people living in the same home decreases, sleep quality deteriorates.

Keywords: Sleep quality, sleep disturbance, daytime sleepiness

SS-156**IS PERIODIC LEG MOVEMENT ASSOCIATED WITH CARDIOVASCULAR DISEASES IN PATIENTS WITH OBSTRUCTIVE SLEEP APNEA SYNDROME?**

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Introduction: Obstructive Sleep Apnea Syndrome (OSAS) is an independent risk factor for cardiovascular disease (CVD) and is related with increased mortality and morbidity. Cardio-metabolic diseases associated with OSAS are diabetes mellitus, atherosclerosis, hypertension, arrhythmia, heart failure and stroke. Periodic leg movements index (PLMI) is investigated as an indicator of increased sympathetic activation in OSAS patients. The aim of this study is to investigate the incidence and association of PLMI and cardiovascular disease (CVD) according to OSAS severity. The relationship between PLMI and the lowest rate, the highest heart rate and heart rate variability are also investigated.

Materials and Methods: A total of 626 subjects who underwent PSG with the suspicious diagnosis of OSAS. Subjects with apnea-hypopnea index (AHI) <5 were included as the control group. The AHI levels of 5 to 14.9, ≥ 15 to 29.9 and ≥ 30 were determined as mild, moderate and severe OSAS, respectively. Body mass index (BMI) was calculated as weight in kilograms (measured by a scale) divided by the square of height. As the term "cardiovascular disease"(CVD) referred only to the presence of heart failure, coronary artery disease, hypertension, arrhythmia or cerebrovascular disease. PLMI was obtained from standard all-night polysomnography recordings in all subjects. Leg movements were scored if there was an amplitude increase from baseline lasting 0.5-5.0 seconds; PLMS required 4 or more movements in succession 5-90 seconds apart. Leg movements after respiratory events were not included unless they were part of a four or more movement cluster with two or more leg movements occurring independent of respiratory events. PLMS were quantitated using the periodic limb movement index (PLMI). Chi-square test was used for categorical data and student-t test for numerical data. Parametric data are presented as mean \pm standard deviation (SD). Correlation analysis was performed for the relationship between PLMI and heart rate. SPSS 22.0 program was used for statistical analysis. A P value of 0.05 was used as the cut-off value to determine statistical significance.

Results: Data of 488 OSAS patients (mean age: 50.0 \pm 12.2 years, M/F: 314/182) and 138 control group (mean age: 45.6 \pm 12.6, M/F:55/75) were recorded. A total of 166 mild OSAS, 92 moderate OSAS and 230 severe OSAS patients included the study. The prevalence of CVD was also gradually increased from the control group to patients with severe OSAS [15 (11); 51 (32); 51 (47) and 165 (72), p=0.001]. PLM index levels increased gradually from control group to patients with severe OSAS (3.08 \pm 2.57; 5.84 \pm 4.01; 6.70 \pm 5.10 and 7.65 \pm 3.82, respectively, p<0,001). CVD, Ischemic Heart Disease (IHD), Hypertension, Stroke and Arrhythmia rates were associated with PLMI (p<0.001, <0.001, 0.008, 0.007, 0.004, respectively). The lowest heart rate was significantly associated with PLMI (r=-0.11, p=0.007), but the highest heart rate and heart rate variability weren't associated with PLMI (p=0.17, p=0.41, respectively).

Conclusions: In conclusion, the prevalence of CVD is significantly increased in patients with OSAS and PLMI was high in patients with CVD. The PLMI may be used as an indicator of sympathetic activity to predict CVD risk in patients with OSAS.

Keywords: Obstructive sleep apnea syndrome, periodic leg movement index, cardiovascular diseases, heart rate variability

SS-157**A NEW DEFINITION IN SLEEP BREATHING DISORDERS: RESTRICTED REM DEPENDENT OBSTRUCTIVE SLEEP APNEA SYNDROME**

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Introduction: Obstructive sleep apnea syndrome (OSAS) is an independent risk factor for cardiovascular disease (CVD), hypertension (HT) and diabetes mellitus (DM) and is related with increased mortality and morbidity. Recent studies showed that there is an increased sympathetic activity and decreased muscle activity during the rapid eye movement sleep (REM stage) both of which might also be related with systemic diseases. With this background in mind, we aimed to compare the prevalence of CVD, HT and DM in restricted REM stage patients with health subjects and mild OSAS patients.

Materials and Methods: A total 750 subjects who underwent polysomnography with the suspicious diagnosis of OSAS. Presence of DM, HT and CVD (including coronary artery disease, arrhythmia, stroke, congestive heart failure) were recorded. Body mass index (BMI) and waist-hip ratio (WHR) were calculated and all patients' demographics and laboratory values were also recorded from their medical charts. Restricted REM dependent OSAS was defined when REM apnea hypopnea index (AHI) was >5/hours and total AHI was <5/hours. Patients with an AHI <5/hours were recruited as a control group and patients with AHI between 5/hours to 14.9/hours recruited as mild OSAS group. 419 moderate and severe OSAS patients were excluded from the study.

Results: 133 mild OSAS, 67 restricted REM dependent and 131 healthy subjects were included for final analysis. The prevalence of HT, DM, CVD were higher in mild OSAS group when we compared with REM stage and healthy subjects ($p < 0.05$). As expected the oxygen desaturation index, desaturation index and AHI are higher in mild OSA subjects ($p < 0.05$ for all) whereas rapid eye movement apnea hypopnea index (REM AHI) was higher in REM AHI group compared to mild OSAS group (26.6 ± 14.6 vs. 14.8 ± 18.0 , $p = 0.001$). Interestingly, the prevalence of cardiovascular disease (28.1% vs. 16%, $p = 0.04$) is higher in restricted REM group compared to healthy subjects. Although the prevalence of hypertension (20.3% vs. 13%, $p = 0.18$) and diabetes (16.4% vs. 9.9%, $p = 0.18$) were higher in restricted REM group compared to healthy subjects, these were not statistically significant.

Conclusions: The prevalence of CVD, HT and DM are higher in REM stage patients compared to healthy subjects. REM stage patients should be followed for development of CVD, HT and DM to decrease relevant mortality and morbidity. Further long-term follow-up studies are warranted to elucidate the clinical importance of REM stage on development of systemic disease.

Keywords: Restricted REM dependent OSAS, new definition, cardiovascular disease

SS-161

COMPARISON OF LOBECTOMY VIA VATS VERSUS THORACOTOMY FOR PRIMARY LUNG CANCER SURGERY-269 CASES

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Introduction: Numerous centers worldwide perform lobectomy by video-assisted thoracoscopic surgery (VATS) as an alternative to thoracotomy in suitable cases, especially in early-stage non-small cell lung cancer (NSCLC). The aim of this study is to compare VATS lobectomy to lobectomy via thoracotomy in NSCLC cases regarding the length of inpatient stay, early postoperative morbidity, tumour size and tumour stage.

Materials and Methods: 269 cases with NSCLC who have undergone lobectomy between June 2017 and June 2019 were retrospectively studied. VATS lobectomy was performed in 89 of these patients, whereas 180 patients had undergone lobectomy via thoracotomy. The results of the surgical procedures were evaluated between the two groups comparing the length of inpatient stay, early postoperative morbidity, tumour size and tumour stage.

Results: It was found that the mean size of the dissected tumour was smaller in the VATS lobectomy group when compared to the thoracotomy group (2.66 centimeters (cm) versus 3.97 cm) ($p < 0.001$). In 0-3 cm tumors VATS and thoracotomy procedures were preferred with similar ratios (VATS 46% versus thoracotomy 54%), whereas in 3-5 cm tumors it was seen that the preference for VATS was statistically significantly decreased (30% versus 70%) ($p < 0.05$). It was found that the average length of inpatient stay was shorter in the VATS group compared to the thoracotomy group (4 versus 5.5 days) ($p < 0.05$). Early postoperative morbidity was lower in patients in the VATS group (14.6% versus 27.2%) ($p < 0.021$). Pathological stages were evaluated and it was seen that 77% of the patients in the VATS group were Stage 1 and 23% was stage 2 and 3 NSCLC ($p < 0.05$)

Conclusions: VATS lobectomy, especially preferred in T1 tumours, statistically significantly decreases the length of inpatient stay and early postoperative morbidity.

Keywords: VATS lobectomy, thoracotomy lobectomy, early stage non-small-cell lung cancer