SS001[Experimental Research]

The Synthesis and Characterization of Chiral Thiosemicarbazones and Their Potential Cytotoxic Effects on Cancer Cells

Demet Taşdemir¹, Mustafa Ulaşlı², Ayşegül İyidoğan¹, Emine Elçin Emre¹, Recep Bayraktar², Ufkun Özdemir³, Hasan Bayram³
¹Gaziantep University, Faculty of Science, Department of Chemistry
²Gaziantep University, Faculty of Health, Department of Medical Biology
³Gaziantep University, Faculty of Health, Department of Chest Diseases

BACKGROUND: Cancer is still a significant cause of mortality and morbidity in Turkey and worldwide and current chemotherapeutic agents are not sufficiently effective. The aim of our study was to synthesize novel potential chemotherapeutic agents, and to investigate their anti-cancer effects.

MATERIALS-METHODS: We synthesized eight (3e, 3g, 3h, 3i and 3e*, 3g*, 3h*, 3i*) chiral thiosemicarbazones using chiralamines as starting materials at three steps. For characterization of compounds 1H NMR, 13C NMR, IR, UV-vis and mass spectroscopic techniques were used. All compounds were tested for cytotoxic activity on MCF-7 (breast cancer) and A549 (lung cancer) cells. Cell viability was studied using MTT (3-[4,5-dimethylthiazol-2-yl]-2,5-diphenyl-tetrazoliumbromide) following incubation with 2.5, 10, 50 and 100µM of each compound.

RESULTS: Specific peaks (schiff base, thioamide) were observed, which indicated that the theoretically planned substances were synthesized. 100 µM of S enantiomer (3*) of 3g decreased viability of MCF-7 cells (optic density [OD]=1.08 vs 1.7, p<0.002), whereas R enantiomer decreased A549 cell viability (OD:1.08 vs 1.6, p<0.003). Although 100µM of 3e, 3h, 3e* and 3h* decreased the viability of MCF-7 and A549 cells, 3i and 3i* did not show any effects.

CONCLUSION: These findings suggest that six compounds that we synthesized for the first time, may have potential chemotherapeutic effects, and that the R and S enantiomers of compounds having same characteristics may present different cytotoxicity on cancer cells.

Keywords: Chiral thiosemicarbazone, Cell viability, A549, MCF-7
Effects of a soluble epoxide hydrolase inhibitor (sEHI) on viability and release of inflammatory cytokines from bronchial epithelial cells of patients with COPD

Ufkun Özdemir1, Demet Taşdemir1, İbrahim Koç1, Bruce D Hammock2, Kent E Pinkerton3, Hasan Bayram1

1Cell Culture Laboratory, Department of Chest Diseases, School of Medicine, University of Gaziantep
2UCD & Cancer Center, University of California Davis, California, USA.
3Center for Environment and Health, University of California Davis, California, USA.

RATIONALE: COPD is associated with chronic airway inflammation, which is resistant to steroids and available anti-inflammatory agents. Recent studies suggest that soluble epoxide hydrolase inhibitors (sEHI) may reduce airway inflammation in animal models of COPD. However, it is not clear whether these agents show the similar effect on human airway epithelial cells.

METHODS: We cultured primary bronchial epithelial cells (BECs) from non-smokers, smokers and patients with COPD, and incubated these with 0.1,1,10 and 33µM sEHI for 24 hours with or without the stimulation of 1ng/ml of interleukin (IL)-1β. Cell culture supernatants were analyzed for granulocyte macrophage-colony stimulating factor (GM-CSF) and IL-8. BEC viability was determined by MTT assay.

RESULTS: Higher concentrations of sEHI (10µM and 33µM) significantly (p<0.0001) decreased the viability of unstimulated non-smoker cells compared to control cells treated with 0µM sEHI. Similarly, both 10µM (p<0.01) and 33µM (p<0.001) sEHI decreased the viability of unstimulated COPD cells. The viability of IL-1β-stimulated cells of both non-smokers and COPDs were also reduced by higher doses of sEHI. However, sEHI did not affect viability of BECs from smokers. Furthermore, sEHI did not show any effect on the release of GM-CSF or IL-8 from BECs cultured from either groups of non-smokers, smokers or COPD patients.

CONCLUSION: These findings suggest that sEHI have no effect on the release of GM-CSF and IL-8 from human bronchial epithelial cells and may be toxic to these cells.

Keywords: COPD, primary bronchial epithelial cells, soluble epoxide hydrolase inhibitor, GM-CSF, IL-8, cell viability
Investigation of the effects of sleep disorders on the hippocampal mediated learning and memory in rats

Mustafa Saygın¹, Mehmet Fehmi Özgüner¹, Önder Öztürk², Duygu Kumbul Doğuç³, İltar İlhan⁢
¹SuleymanDemirelUniversity,MedicalFaculty,DepartmenofPhysiology
²SuleymanDemirelUniversity,MedicalFaculty,DepartmenofChestDiseases
³SuleymanDemirelUniversity,MedicalFaculty,DepartmenofMedicalBiochemistry

In this study, the effects of sleep disorders on the hippocampus mediated learning and memory were investigated. Forty-eight Sprague-Dawley male rats in total, were divided into 4 groups including Control(K), the REM deprivation(RD), total sleep deprivation(SD) and sleep fragmentation(SF). Rats were subjected to swimming training in the Morris Water Maze float assembly for 4 times a day for 5 days period. At the 6th day sleep disorders were begun to be implemented and sleep disorders were created for the SD group in the course of 3 days and for the RD and SF groups for 7 days. Probitest was applied to the animals for a period of 60 seconds by removing the platform from the assembly. Visible platform test was conducted 1 day prior to experiment and 3rd days to the SD group and 1 day prior to experiment and 7th days to the RD and SF groups. As the parameters of memory; swim period(sec) at the platform quadrant, swim distance (cm) at the platform quadrant, average swim speed (cm/sec), total swim distance (cm), and swimming time (sec) at the outer quadrant were evaluated. For all groups, statistically significant disturbances in the memory pattern were recorded (p<0.05). Glutamate levels were found to be significant in SD and RD, SD and SF groups and an increase was observed in RD and RD (p < 0.05). Serotonin levels were found to be statistically significant between K and SD, SD and RD, and SD and SF (p < 0.05); while serotonin levels decreased in SD group comparing with control group, they increased in RD and SF groups comparing with SD group. In terms of 5-HT2A receptor expression, significant relationships were found in K and SD, K and RD and K and SF (p < 0.05) and comparing with the controls the expression rates increased. As a conclusion, it can be said that serotonin levels and expressions of serotonin 5-HT2A receptors increased in sleep disorders. Compensation of the impairment mechanisms related with memory was realized by this receptor. We conclude that in sleep disorders, SSRIs drugs and 5-HT2A receptor agonists could be used.

Keywords: Sleep Disorders, Learning and Memory, NMDA, α7, 5-HT2A, Glutamate, Serotonin, Acetylcholine.

5-HT2A’ya ait optik dansite sonuçları
Optical density results of 5-HT2A

Farklı harf taşıyan ortalamalar arasında istatistiksel olarak anlamlı fark vardır
Bearing different letters are statistically significant difference between the average
Pre and postinaptic receptor activation mechanism
Deep fat frying is one of the popular forms of food preparing. During frying several volatile chemical compounds like acrolein, aldehydes and benzene were released. We constructed an experimental model for frying vegetable oil exposure to investigate the lower airway effects of frying in rats.

METHODS
A pilot study was conducted to measure PM2.5, PM10, total volatile compounds (TVOC), CO and CO2 concentrations in restaurants serving fried food. A cage composed from two different units was conducted to study fried vegetable oil exposure model. A deep fryer was inserted to one unit and the rats were held in the other. PM10 concentration was controlled. Twenty-four Wistar albino rats were randomized to four groups as acute; (n=7), subacute; (n=7), chronic; (n=7) and control; (n=3) according to the exposure duration as 120, 360, 120 minutes/3 weeks and none respectively. Sacrification was performed 24 hours later from exposure. Trachea and lung tissue specimens were evaluated by two blind histologists under light microscope with Hematoxylin-Eosin and Masson-Trikrom staining.

RESULTS
Normal tracheal and lung histological findings were observed in the control group. Mild mononuclear cell infiltration, alveolocapillary membrane thickening, alveolar edema, diffuse alveolar damage were determined in the acute and subacute groups. Diffuse hemorrhage, mononuclear cell infiltration, edema and vascular congestion were also found in the interstitium. All these findings were found to be over expressed with respect to acute and subacute groups.

CONCLUSION
Exposure to fried vegetable oils in the industrial area causes pulmonary inflammation in the early period. Inflammation becomes more severe as the duration of the exposure increases.

Keywords: fried vegetable oils, pulmonary toxicity, indoor pollution
SS005[Experimental Research]

The Effects of Mesenchymal Cells Isolated from Abdominal Adipose Tissue on Rat Model of Emphysema

Pınar Yıldız Gülhan, Özer Aylin Gürpınar, Mehmet Ekici, Mehmet Niyaz, Muhammet Gülhan, Mustafa Emre Ergin, Aydanur Ekici, Nurkan Aksoy

1Department of Chest Diseases, Kirikkale University, Kirikkale, Turkey
2Department of Biology, Faculty of Science, Hacettepe University, Ankara, Turkey
3Department of Cardiovascular Surgery, Kirikkale University, Kirikkale, Turkey
4Department of Infectious Diseases, Kirikkale University, Kirikkale, Turkey
5Department of Pathology, Kirikkale University, Kirikkale, Turkey
6Department of Biochemistry, Kirikkale University, Kirikkale, Turkey

Emphysema and chronic bronchitis which have different physiopathology, are the significant components of chronic obstructive lung disease (COPD). In emphysema models, it is known that bronchoalveolar lavage fluid (BALF) and matrix metalloproteinase-9 (MMP-9) in serum are related with emphysema process. There is limited number of study claiming that adipose tissue-derived mesenchymal stem cells (MSC) obtained from have recovering effects on emphysema. The objective of the study is to investigate whether adipose tissue-derived MSCs have recovering effects on emphysema and on MMP-9 levels in an elastase rat model of emphysema.

In this study, 6/8-week-old 31 Wistar albino rats weighing between 250-300 g were assessed. In the first day of study, saline solution was administered intratracheally to the controls (n=10); 0.5 ml saline solution containing 0.1 IU "porcine" pancreatic elastase (PPE) per body weight in grams was administered intratracheally to the Elastase group (n=12) and the Elastase-MSC group (n=9). Rats in Elastase-MSC group were injected with MSCs suspended in serum physiologic via caudal vein at day 21. In 42nd day of study, all rats were sacrificed. BALF and serum MMP-9 concentrations were measured and emphysema index (EI) was calculated for both lung.

EI median values of Elastase (p=0.008) and Elastase-MSC (p=0.001) groups were significantly lower than that of control group. There was no statistically significant difference between serum and BALF MMP-9 levels of the groups (p>0.005 for two comparisons). Our findings suggest that treatment with adipose tissue-derived MSC has no effect the serum and BALF MMP-9 levels in emphysematous rats.

Keywords: Chronic obstructive pulmonary disease, emphysema, matrix metalloproteinase-9, mesenchymal cell

Table 1

<table>
<thead>
<tr>
<th>Groups</th>
<th>Elastase (n: 12)</th>
<th>Elastase-MSC (n= 9)</th>
<th>Control (n:10)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average</td>
<td>Standard deviation</td>
<td>Median</td>
</tr>
<tr>
<td>Emphysema index (%)</td>
<td>76.75</td>
<td>5.57</td>
<td>76.45</td>
</tr>
<tr>
<td>Serum MMP-9</td>
<td>5.60</td>
<td>1.07</td>
<td>5.19</td>
</tr>
</tbody>
</table>
In the three groups, comparison of serum levels of MMP-9, BAL MMP-9 and emphysema index

<table>
<thead>
<tr>
<th>BAL MMP-9</th>
<th>.5</th>
<th>1</th>
<th>0.08</th>
<th>5.0</th>
<th>9</th>
<th>5.02</th>
<th>5.31</th>
<th>5.09</th>
<th>0.03</th>
<th>5.0</th>
<th>8</th>
<th>5.04</th>
<th>5.13</th>
<th>5.1</th>
<th>0.04</th>
<th>5.1</th>
<th>0</th>
<th>5.06</th>
<th>5.16</th>
<th>0.74 2</th>
</tr>
</thead>
</table>

*In the three groups, comparison of serum levels of MMP-9, BAL MMP-9 and emphysema index*
The relation of polysomnographic parameters to carotid and brachial artery intima-media thickness in patients with severe obstructive sleep apnea syndrome

Selvi Aşker¹, Müntecep Aşker², Mesut Özgökçe³, Hilal Olgun Küçük⁴, Uğur Küçük⁵
¹Department of Pulmonary and Critical Care, Yuzuncu Yıl University Medical Faculty, Turkey. 
²Department of Cardiology, Van Yuksek Ihtisas Training and Research Hospital, Van, 
³Department of Radiology, Van Regional Training and Research Hospital, Van, 
⁴Department of Cardiology, Van Regional Training and Research Hospital, Van, 
⁵Department of Cardiology, Van Military Hospital, Van; Turkey

OBJECTIVE: To evaluate carotid (C) and brachial (BA) artery intima-media thickness (IMT) in patients with severe obstructive sleep apnea syndrome (OSAS) along with factors predicting CIMT and BA-IMT increase.

METHODS: A total of 81 patients with severe OSAS (Mean(SD) age: 48.0(10.5) years, 70.4% were males) and 49 healthy controls (Mean(SD) age: 47.9(9.7) years, 73.5% were females) were included. Data on demographics, cardiovascular risk factors and CIMT and BIMT values were evaluated in each subject along with factors predicting CIMT and BIMT increase in the patient group.

RESULTS: Mean(SD) left and right CIMT and BIMT were significantly higher in OSAS than control group (p<0.001 for each). There was no significant association of polysomnographic parameters with CIMT. Average apnea duration was associated with increase in right and left BA-IMT (B=0.011, p=0.011 for the right and B=0.011, p=0.002 for the left). A significant negative association was noted between average oxygen saturation and left BA-IMT (B=-0.012, p=0.005).

CONCLUSIONS: Our findings revealed significant increase in of CIMT and BA-IMT in patients with severe OSAS compared to controls. None of the polysomnographic parameters, but age and smoking, was determinants of increased CIMT, while apnea duration, arousal index and concomitant diabetes mellitus were significant predictors of BA-IMT.

Keywords: Obstructive sleep apnea syndrome; polysomnography; carotid artery; brachial artery; intima-media thickness; cardiovascular risk factors
AIM: UARS is a syndrome characterized with excessive daytime sleepiness and cardiovascular disorders because of increased upper airway pressure leading to increased intrathoracic pressures resulting in frequent arousals without causing apnea or hypopnea. This study is planned in light of theses that positive airway pressure (PAP) which is a real treatment option may be used as a diagnostic tool in terms of treat to diagnose strategy and using this strategy which also reveals treatment pressures, patients who have high titration pressures may be diagnosed with UARS.

MATERIALS - METHODS: Using recorded data of our Sleep Disorders Center, records of 33 patients of whom apnea hypopnea index <5, arousal index > 20, who had excessive daytime sleepiness, who did not show oxygen desaturation during sleep and who had undergone CPAP titration were analyzed retrospectively.

RESULTS: Mean Epworth Scale score of patients was 14.73 ± 3.9. Mean AHI was 2.3 ± 1.5 whereas mean ARI was 25.7 ± 4.8. In 3(9%) patients, normal pressure values were found during CPAP titration, but in 30 (91%) patients, CPAP pressures were found to be 7.1 ± 1.06 cmH2O during titration.

DISCUSSION: In the light of our findings, high PAP values found during titration are evidence of increased upper airway resistance in patients suspected for UARS. In patients with normal pressures, diagnosis of UARS is ruled out. PAP is thought to be effective for reaching definite UARS diagnosis in terms of evidence based medicine. Furthermore, with PAP method as part of our treat to diagnose strategy, pressure values that each patient needs are also defined. Studies including larger populations and following clinical response of such patients under PAP treatment in long term will contribute to the treatment of this syndrome also regarded as “unresolved problems for many years”.

Keywords: Upper airway resistance syndrome, diagnosis, treatment, PAP method
Assessment of quality of life and depressive symptoms in Obstructive sleep apnea syndrome (OSAS) and evaluation of efficiency of the PAP treatment

Çiğdem Hanazay, Tansu Ulukavak Çiftçi, Oğuz Köktürk
Department of Pulmonary Disease, Gazi University, Ankara, Turkey

OBJECTIVE: The aim of this study was to evaluate the perception of Quality of Life (QOL) and depressive symptoms in patients with OSAS and compare improvement of QOL depressive symptoms before and after treatment with continuous positive airway pressure (CPAP).

METHOD: 112 subjects who applied to Sleep Research Laboratory at the University Hospital were included in the study. 81 of 112 subjects that Apnea Hypopnea Index (AHI) >15 were included as OSAS patients and 31 subjects that AHI <5 were included as controls. We assessed for mood using Beck Depression Inventory (BDI), and for QOL using Nottingham Health Profile (NHP) in all subjects. 31 of 81 OSAS patients who used CPAP regularly for 3-12 months were completed the questionnaires once again.

RESULTS: According to the results of scores for BDI and all domains of NHP, OSAS patients have more depressive symptoms than normal controls (p=.04), but scores for all domains of NHP except physical mobility were not different from control groups. After CPAP treatment, BDI scores were respectively decreased from 14.1±8.5 to 7.0±6.4 (p<0.001). Scores for all domains of NHP except social isolation were decreased significantly after treatment. The results show us that CPAP decreases depressive symptoms and improves QOL, in patients with moderate to severe OSAS.

CONCLUSION: In OSAS patients depressive symptoms were more frequent than controls but there was no difference in terms of QOL between two groups. However CPAP treatment decreased depressive symptoms and improves QOL of the patients with OSAS.

Keywords: obstructive sleep apnea syndrome, beck depression inventory continuous positive airway pressure, quality of life
Evaluation of Obesity, Excessive Daytime Sleepiness, Risk of Obstructive Sleep Apnea, History of Past Road Traffic Accident and Computer-Based Psychotechnique Driver Assessment System Among Heavy Vehicle Drivers

Ezgi Demirdöğen Çetinoğlu¹, Aslı Görek Dilektaşlı¹, Nefise Ateş Demir³, Güven Özkaya², Nilüfer Aylin Acet¹, Eda Durmus¹, Ahmet Ursavaş¹, Ercüment Ege¹
¹Uludag University Faculty of Medicine, Department of Pulmonary Diseases, Bursa, Turkey
²University Faculty of Medicine, Department of Biostatistics, Bursa, Turkey
³Metropolitan Municipality Social Services Branch Manager, Bursa, Turkey

BACKGROUND: The aim of the study was to determine the relationship between obesity, berlin questionnaire (BQ), epworth sleepiness scale (ESS), past history of road traffic accident (RTA) and performance on driving simulator among heavy vehicle drivers.

MATERIAL- METHODS: We examined 282 heavy vehicle drivers admitted for driving simulator test in psychotechnique driver assessment system. The risk of obstructive sleep apnea (OSA) and excessive daytime sleepiness (EDS) was assessed by BQ and ESS. Computer-based system including tests assessing psychomotor-cognitive skills required for driving was developed by TUBİTAK- ODTÜ and BİLTEN.

RESULTS: The mean age of the drivers were 45.4±8.8. Thirty drivers were at high risk for OSA with BQ. Median ESS of the group were 2(0-20). Seventy-two drivers had past history of RTA. 86.9% of the subjects "passed" the simulator test; and 12.4% "failed". 47% of the subjects at high risk of OSA failed in early reaction time test while 28% of the drivers with low risk of OSA failed(p<0.03,Table1). The obese drivers failed the peripheral vision test when compared with the drivers with BMI<30kg/m2 (p<0.02,Table2). ESS was increased in drivers with a past history of RTA when compared with no RTA(p=0.02).

CONCLUSION: Cognitive-psychomotor functions can be impaired in obese subjects and people with high risk of OSA assessed by BQ. Driving performance is very sensitive to cognitive and psychomotor impairment. We conclude that a risk assessment procedure for screening based on BMI and OSA risk (according to BQ) should be applied during the driving licence application procedure of heavy vehicle drivers.

Keywords: heavy vehicle driver, driving simulation, road accident, obesity, berlin questionnaire, epworth sleepiness scale

<table>
<thead>
<tr>
<th>Table 1. The Relationship Between Driving Simulator Tests and BQ</th>
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<tbody>
<tr>
<td>BQ low risk</td>
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<tr>
<td>----------------</td>
</tr>
<tr>
<td>Sustained attention test failed</td>
</tr>
<tr>
<td>GI of visual perception and memory test failed</td>
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<tr>
<td>Discernment test failed</td>
</tr>
<tr>
<td>Coordination test failed</td>
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<tr>
<td>Reaction rate test failed</td>
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<tr>
<td>Early reaction time test failed (one of the speed-distance estimation test component)</td>
</tr>
<tr>
<td>Peripheral vision test failed</td>
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<tr>
<td>Total test failed</td>
</tr>
<tr>
<td>Test</td>
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<tr>
<td>Sustained attention test failed</td>
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<tr>
<td>GI of visual perception and memory test failed</td>
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<td>Discernment test failed</td>
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<td>Peripheral vision test failed</td>
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<td>Total test failed</td>
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The value of the STOP-BANG questionnaire in predicting obstructive sleep apnea and obesity hypoventilation syndrome in morbidly obese persons

Züleyha Bingöl1, Aylin Pihtılı2, Penbe Çağatay3, Gülfer Okumus1, Esen Kıyano1
1Istanbul University, Istanbul Faculty of Medicine, Department of Pulmonary Medicine, Istanbul, Turkey
2Private Keçiören Hospital, Department of Pulmonary Medicine, Ankara, Turkey
3Istanbul University, Istanbul Faculty of Medicine, Department of Biostatistics, Istanbul, Turkey

INTRODUCTION: STOP-BANG questionnaire (SBQ) including snoring, tiredness, witnessed apnea, hypertension, body mass index (BMI), age, neck circumference and gender is used for preoperative screening of OSA. Its place in OSA and obesity hyperventilation syndrome (OHS) diagnosis in morbidly obese patients is unknown.

AIM: Determining value of SBQ in OSA and OHS diagnosis in morbidly obese (BMI >=35) persons and comparing SBQ score with polysomnographic parameters. (Ethic No:2013/381)

METHOD: Demographics, polysomnographic data, Epworth Sleepiness Scores (ESS), ABG, spirometry, and SBQ scores were noted.

RESULTS: 196 persons included in the study (105 female, 91 male; age 49.4±10.5years, BMI: 40.3±5.6 kg/m2) had SBQ score of 5.37±1.4. OSA was found in 89.8% (51.2% severe, 24.4% moderate, 24.4% mild) and OHS in 38.8% (n=76). SBQ scores were high in patients with OSA (5.48±1.36, 4.52±1.46, p=0.004) and also high in OHS patients (5.94±1.11, 5.01±1.45, p=0.000). As OSA severity increased, so did the SBQ score (mild: 4.97±1.31, moderate: 5.09±1.32, severe: 5.91±1.26 p=0.000). Correlation was found between SBQ and EUS (r=0.410, p=0.000), PaO2 (r=−0.216, p=0.003), PaCO2 (r=0.215, p=0.003), AHI (r=0.377, p=0.000), ODI (r=0.380, p=0.000), SpO2 (r=−0.168, p=0.019), minimum SpO2 (r=−0.292, p=0.000), time SpO2<90 (r=0.273, p=0.000). OSA diagnosis with SBQ score >=4 had a sensitivity of 76%, specificity of 64%, positive predictive value (PPV) of 95% and negative predictive value (NPV) of 77%. For SBQ score of >=5 in OHS diagnosis, the sensitivity was 72%, specificity was 61%, PPV 54% and NPV 78%.

CONCLUSION: SBQ can be used for screening of OSA and OHS in morbidly obese persons.

Keywords: morbidly obesity, obesity hypoventilation syndrome, stop bang questionnaire, obstructive sleep apnea
Efficiency of Pulmonary Rehabilitation in COPD Patients with Pulmonary Hypertension

İpek Candemir, Pınar Ergün, Dicle Kaymaz, Ezgi Utku, Nilgün Mendil, Neşe Demir, Fatma Şengül, Nurcan Egesel
Atatürk Chest Diseases and Surgery Education and Research Hospital

AIM: Pulmonary hypertension (PH) is frequently observed in COPD patients. Aim of this study is to evaluate efficiency of multidisciplinary pulmonary rehabilitation (MPR) in COPD patients with PH.

METHOD: All the patients who completed program between 2008-2013 were examined. 47 COPD (2 female) patients who were diagnosed as probable or possible PH according to 2009 ERS/ESC guidelines were enrolled. Other causes of PH were excluded. MRC dyspnea scale were utilized before and after 8 weeks of MPR for dyspnea, as S. George QOL index questionnaire for health related quality of life (QOL) and incremental shuttle walking test (ISWT) and Endurance shuttle walking test for exercise capacity. Peak VO2 levels were calculated using ISWT.

RESULTS: Table 1 summarizes the mean values before and after PR. Perception of dyspnea, QOL and exercise capacities improved after PR. While pulmonary artery pressure was negatively correlated with body composition; respiratory function test, QOL, and exercise capacity were positively correlated with perception of dyspnea (Table 2). However, no correlation was found between pulmonary artery pressure and improvement in exercise capacity.

CONCLUSION: PR is an efficient method in COPD patients with PH. Patients should be evaluated specifically and patient-specific PR programs should be established.

Keywords: COPD, Pulmonary Hypertension, Pulmonary Rehabilitation

table 1: mean values before and after pulmonary rehabilitation
<table>
<thead>
<tr>
<th>Table 2: Parameters correlated with pulmonary arterial pressure</th>
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<tbody>
<tr>
<td></td>
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<tr>
<td>VKİ başlangıç</td>
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<td>VKİ bitiş</td>
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<tr>
<td>YVKI başlangıç</td>
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<tr>
<td>YVKI bitiş</td>
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<tr>
<td>%FEV1 başlangıç</td>
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<tr>
<td>MRC başlangıç</td>
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<td>SRGQ semptom başlangıç</td>
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<td>SRGQ semptom bitiş</td>
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<td>SRGQ total başlangıç</td>
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<td>SRGQ total bitiş</td>
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<td>AHMYT bitiş</td>
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<td>İMYT başlangıç</td>
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<td>VO2 peak bitiş</td>
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The relationships results of exercise capacity, dyspnea, chest expansion, quality of life and disease activity in patients with ankylosing spondylitis

Manolya Acar, Eda Tonga, Sinem Ayyıldız, Berna Balçı
Baskent University. Faculty of Health Sciences, Physiotherapy and Rehabilitation Department

INTRODUCTION: Ankylosing spondylitis (AS), causes restrictive respiratory disorder by limiting the expansion of the chest because of the costosternal and costovertebral joints. The aim of our study was to investigate the relationship between exercise capacity, dyspnea, fatigue severity, chest expansion and quality of life, disease activity in patients with ankylosing spondylitis.

METHODS: Our study was carried out on 15 patients (10 male, 5 female) who had ankylosing spondylitis diagnosed with an average age of 41.20±10.80 years, body mass index of 24.30±3.99 kg/m². 6 Minute Walk Test (MWT) was performed to determine exercise capacity. After 6 (MWT), dyspnea, fatigue severity that was measured by the Modified Borg Scale was recorded. Ankylosing Spondylitis Quality of Life Questionnaire (ASQOL) was used to evaluate quality of life of patients. Expansion of thoracic was interpreted by measuring of the chest circumference with axillary, epigastric, subcostal region.

RESULTS: Walking distance was 390.60±142.32 metre. 75% of patient do not exercises regularly. No correlation was found between chest expansion, walking distance, dyspnea, fatigue severity and quality of life (p>0.05). Chest expansion, dyspnea and fatigue severity with disease activity was not correlated (p>0.05). Walking distance was negatively correlated with disease activity (r=-546, p=0.34).

CONCLUSION: Our results indicated that exercise capacity increases with decreasing disease activity in patients with ankylosing spondylitis. In addition to medical treatment, especially the exercises increasing cardiovascular endurance may be given on AS treatment. It is thought that more comprehensive studies with more cases are needed on this subject.

Keywords: Ankylosing Spondylitis, Exercise Capacity, Dyspnea, Chest Expansion, Disease Activity, Quality of Life.
Relationship between kinesiophobia and comorbidity and functional capacity in patients with chronic obstructive pulmonary disease

Naciye Vardar Yağlı¹, Ebru Çalık Kütükçü¹, Melda Sağlam¹, Deniz İnal İnce¹, Hülya Arıkan¹, Lütfi Çöplü²
¹Hacettepe University, Faculty of Health Sciences, Department of Physiotherapy and Rehabilitation, Ankara.
²Hacettepe University, Faculty of Medicine, Department of Chest Medicine, Ankara

Introduction and AIM: Sedentary lifestyle and associated comorbid diseases may affect people's willingness to act in patients with chronic obstructive pulmonary disease (COPD). The purpose of this study was to investigate the presence of kinesiophobia and the relationship between kinesiophobia and functional capacity and comorbidity in patients with COPD.

MATERIALS-METHODS: Twenty-two patients with COPD (16 males, 6 females, mean FEV1=59.4±11.2%) were included in the study. Demographic and physical characteristics were recorded. Functional capacity was evaluated with 6 minute walk test. Fear of movement was determined using Kinesiophobia Tampa Scale and comorbidity level was determined using Charlson Comorbidity Index.

RESULTS: 80% of the patients had fear of movement (>40 points). Kinesiophobia Tampa Scale score was positively correlated with Charlson Comorbidity Index (r=0.474, p=0.026) and body mass index (r=0.517, p=0.014). Six minute walk test distance was not significantly correlated with Kinesiophobia Tampa Scale score (r=-0.012, p=0.959).

CONCLUSION: As a result of the study, majority of patients with COPD had fear of movement. Patients with higher comorbidity level increase the incidence of the fear of movement. As well as the known effects of comorbidity on pulmonary rehabilitation, the effects of fear of movement to the success of pulmonary rehabilitation should be investigated.

Keywords: COPD, fear of movement, comorbidity
Relationship between Dyspnea and Muscle Strength, Functional Exercise Capacity, Pulmonary Functions in Patients Undergoing Allogeneic Hematopoietic Stem Cell Transplantation

Gülşah Barğı1, Meral Boşnak Güçlü1, Zeynep Arıbaş1, Burcu Camcıoğlu1, Müşerrefe Nur Karadallı1, Zeynep Şahika Akı2, Gülsan Türköz Sucak2

1Gazi University Faculty of Health Sciences, Department of Physical Therapy and Rehabilitation, Ankara
2Gazi University Faculty of Medicine, Department of Hematology, Ankara, Turkey.

BACKGROUND and AIM: Abnormal pulmonary functions, respiratory muscle weakness and exercise intolerance have been reported in allogeneic hematopoietic stem cell transplantation (HSCT) recipients at transplantation process and may result with dyspnea. However, no study investigated the relationship between dyspnea and pulmonary functions, respiratory and peripheral muscle strength and functional exercise capacity in literature. We aimed to investigate the relationship between dyspnea and pulmonary functions, pulmonary diffusing capacity (DLCO), respiratory and peripheral muscle strength, functional exercise capacity in allogeneic HSCT recipients.

METHODS: Forty nine patients underwent allogeneic HSCT recipients (>100 days status post transplantation, 38.10±13.13 years, 34M, 15F) were included. Dyspnea using Modified Medical Research Council Dyspnea scale (MMRC), pulmonary functions using a spirometry, respiratory muscle strength (MIP, MEP) using a mouth pressure device and peripheral muscle strength using a hand held dynamometer, functional exercise capacity using 6-minute walk test were evaluated.

RESULTS: Dyspnea was reported by 27 (56%) of patients, there was a statistically significant correlation between MMRC score with MIP (r=-0.341, p=0.016), quadriceps femoris (r=-0.391, p=0.005), biceps brachii (r=-0.303, p=0.035) and hand grip muscle strength (r=-0.286 p=0.047). In the multiple regression analysis conducted in 49 patients' dyspnea perception of %15 of the variance was explained with quadriceps femoris muscle strength (r²=0.153, p=0.005).

CONCLUSIONS: As peripheral and respiratory muscle strength decrease perception of dyspnea increases and quadriceps femoris muscle strength is a factor contributing to dyspnea in allogeneic HSCT recipients. The effects of peripheral muscle strengthening exercises and inspiratory muscle training on dyspnea should be investigated.

Keywords: allogeneic hematopoietic stem cell transplantation, dyspnea, exercise, muscle strength
The Effect Of Exercise Capacity On Quality Of Life In Patients With Pulmonary Arterial Hypertension

Bahri Akdeniz¹, Serap Acar², Sema Savcı², Ebru Özpelit¹, Didem Karabacak², Buse Özcan², Can Sevinç³
¹Dokuz Eylül University, Medicine Faculty, Department of Cardiology, İzmir
²Dokuz Eylül University, School of Physical Therapy and Rehabilitation, İzmir
³Dokuz Eylül University, Medicine Faculty, Department of Chest Disease, İzmir

OBJECTIVES: The objective of this study to research the effects of exercise capacity on quality of life in patients with pulmonary arterial hypertension.

METHODS-MATERIALS: 6 male, 13 female totally 19 pulmonary arterial hypertension patients who were classified class I-II-III according to the New York Heart Association Classification were included to the study. Patients were the sum of the patients who were diagnosed idiopathic pulmonary arterial hypertension, connective tissue disease and pulmonary arterial hypertension and congenital heart disease with pulmonary arterial hypertension. Demographic variables, cycle ergometry test for exercise capacity measurement and Nottingham Health Profile assessment for quality of life were assessed. The relationship between exercise capacity and quality of life measurement was evaluated with Pearson Correlation Test.

RESULTS: The mean age of the patients were 50.83 ± 18.06 (min 19 – max 72) years old. The mean of the brain natriuritic peptide levels were 335.35 ± 324.97 pg/ml. The mean pulmonary arterial pressure was 85 ± 19.91 mmHg. According to the Pearson Correlation analysis exercise capacity were positively correlated with sleep (p = 0.014, r = 0.582), emotional reactions (p = 0.04, r = 0.489) domain and total quality of life score (p = 0.026, r = 0.536).

CONCLUSION: As well as physiological disturbances in patients with pulmonary arterial hypertension, changes indicated in emotional reactions and sleep quality negatively affects general quality of life of the subjects.

Keywords: Pulmonary arterial hypertension, exercise capacity, quality of life
Serum Fibulin-3 Levels in Patients with Mesothelioma and Pleural Plaques and Healthy Subjects Exposed to Naturally Occurring Asbestos

Mehmet Bayram¹, İsa Döngel², Ali Akbaş³, İsmail Benli³, Muhammed Emin Akkoyunlu¹, Levent Kart⁴
¹Department of Pulmonology, Bezmialem Vakif University, Istanbul, Turkey
²Department of Thoracic Surgery, Süleyman Demirel University, Isparta, Turkey
³Department of Biochemistry, Gaziosman Pasa University, Tokat, Turkey
⁴Department of Pulmonology, Fatih University, Istanbul, Turkey

BACKGROUND: fibulin-3 is reported to be high in serum of patients with mesothelioma (MM) compared to other malignancies and benign conditions related to asbestos.

OBJECTIVE: We evaluated levels of fibulin-3 in MM, subjects with pleural plaques (PP), subjects exposed to naturally occurring asbestos and control subjects with no exposure.

METHODS: The study population consisted of four groups: 27 subjects with MM, 200 subjects with PP, 168 "healthy exposed," and 54 control subjects.

RESULTS: Median serum fibulin-3 levels of MM, PP, healthy exposed, and control subjects were 34.7, 33.6, 25.4, and 14.4 ng/L, respectively; levels of fibulin-3 was significantly higher in the MM group versus healthy exposed or control group(p<0.001). No significant difference was found in binary comparison among MM and PP. Level of fibulin-3 was significantly higher in the PP group versus healthy exposed or control group. Level of fibulin-3 was significantly higher in the healthy exposed group versus control group(p<0.001). For discriminating MM group from control group the sensitivity and specificity and area under curve of fibulin-3 were 77.8% and 75.9% and 0.80, respectively if greater or equal to 23.1 ng/ml. For discriminating PP group from control group the sensitivity and specificity and area under curve of fibulin-3 were 74.5% and 75.9% and 0.80, respectively if greater or equal to 23 ng/ml which was found as optimal cut off level.

CONCLUSIONS: Serum fibulin-3 levels are higher in MM, PP and healthy exposed subjects. Although fibulin-3 discriminated MM and control group but it failed to discriminate MM and PP.

Keywords: Asbestos, Fibulin-3, Mesothelioma

Figure 1. Box-Plot graphic showing the Fibulin-3 distributions and multiple comparisons within groups
Table 1. Baseline characteristics of study population

<table>
<thead>
<tr>
<th></th>
<th>Mesothelioma n:27</th>
<th>Pleural Plaque n:200</th>
<th>Healthy subjects exposed to asbestos n:168</th>
<th>Control Group n:54</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender male %</td>
<td>75</td>
<td>66.8</td>
<td>28.1</td>
<td>42.6</td>
</tr>
<tr>
<td>Age median (P25-P75)</td>
<td>56.5 (46.5-65)</td>
<td>62 (56-73)</td>
<td>57 (48.5-65)</td>
<td>50.5 (38.2-67.5)</td>
</tr>
<tr>
<td>Current Smoker %</td>
<td>20</td>
<td>24</td>
<td>8</td>
<td>14</td>
</tr>
<tr>
<td>Former Smoker %</td>
<td>20</td>
<td>14</td>
<td>9</td>
<td>20</td>
</tr>
<tr>
<td>Never Smoker %</td>
<td>60</td>
<td>61</td>
<td>82</td>
<td>64</td>
</tr>
<tr>
<td>BMI median (P25-P75)</td>
<td>25.08 (19.5-31.2)</td>
<td>25.8 (22.6-29)</td>
<td>28.6 (24.9-32.8)</td>
<td>26.9 (22.1-31)</td>
</tr>
<tr>
<td>Fibulin-3 ng/dl median n(P25-P75)</td>
<td>34.7 (23.2-68.8)</td>
<td>33.6 (22-54)</td>
<td>25.4 (15.1-48.6)</td>
<td>14.4 (8.9-23.3)</td>
</tr>
</tbody>
</table>

Table 2. The Sensitivity and Specificity of Fibulin-3 Levels for Discriminating the Groups.

<table>
<thead>
<tr>
<th></th>
<th>Cut off Value ng/dl</th>
<th>Sensitivity % (95% Confidence Interval)</th>
<th>Specificity % (95% Confidence Interval)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mesothelioma vs control</td>
<td>18.4</td>
<td>75.9 (59.6-88.1)</td>
<td>59.3 (50.5-65.8)</td>
</tr>
<tr>
<td>Mesothelioma vs control</td>
<td>23.1</td>
<td>72.4 (57.9-85.4)</td>
<td>75.9 (67.3-82.6)</td>
</tr>
<tr>
<td>Mesothelioma vs control</td>
<td>27.2</td>
<td>65.5 (49.8-78.2)</td>
<td>81.5 (73-88.3)</td>
</tr>
<tr>
<td>Pleural plaque vs control</td>
<td>19.3</td>
<td>80.5 (77.2-83.5)</td>
<td>59.3 (47-70.4)</td>
</tr>
<tr>
<td>Pleural plaque vs control</td>
<td>23</td>
<td>74.5 (71.2-77.1)</td>
<td>75.9 (63.8-85.5)</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>Lower CI</td>
<td>Upper CI</td>
</tr>
<tr>
<td>--------------------------</td>
<td>------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>Pleural plaque vs control</td>
<td>26.1</td>
<td>67.5 (64.3-69.8)</td>
<td>81.5 (69.6-90)</td>
</tr>
<tr>
<td>Healthy subjects exposed to asbestos vs control</td>
<td>19.6</td>
<td>65.5 (61.5-69.1)</td>
<td>63 (50.5-74.2)</td>
</tr>
<tr>
<td>Healthy subjects exposed to asbestos vs control</td>
<td>22.6</td>
<td>57.7 (53.8-60.9)</td>
<td>74.1 (61.8-84)</td>
</tr>
<tr>
<td>Healthy subjects exposed to asbestos vs control</td>
<td>25.3</td>
<td>50.6 (46.8-53.5)</td>
<td>79.6 (677-88.5)</td>
</tr>
</tbody>
</table>
SS017[Occupational and Environmental Diseases]

Respiratory Effects of Tear Gas Exposure

Eda Uslu¹, Gülcihan Özkan¹, Çağla Filiz Uyanusta Küçük², Hilal Onaran¹, Çağla Pınar Taştan Uzunmehmetoğlu¹, Asiijnan Ilgaz², Gamze Ayar³, Makbule Özlem Akbay¹, Hikmet Fırat², Tansu Ulukavak Çiftçi², Serdar Akpinar², Bülent Çiftçi², Selma Fırat Güven², Selen Bilekli², Arif Müezzinoğlu², Fatih Torlak⁴, Peri Arbak³, Elif Dağlı¹
¹Turkish Thoracic Society Istanbul Branch
²Turkish Thoracic Society Ankara Branch
³Turkish Thoracic Society West Black Sea Branch
⁴Marmara University Medical School Epidemiology Department

Tear gas is accepted as a safe crowd control agent depending on limited data on healthy volunteers and experimental animals. However, the information about the respiratory effects of tear gas used recurrently on humans is lacking.

The aim of this study is to investigate the frequency and duration of acute respiratory symptoms developed after the use of crowd control gases on public.

A face-to-face questionnaire survey was carried out among individuals who had been exposed to tear gas during public protests in June 2013 in Ankara and Istanbul.

The characteristics of the study group were; average age: 31.2±10.5 years, gender: 48% female, 52% male, educational status: 52% university graduates, 21% university students. 40% was exposed to tear gas outdoors in less than 1m, 24% were exposed indoors. 70% reported to have respiratory difficulty, 80% cough, 45% sputum production, 43% chest pain, 3% hemoptysis. The symptoms of nasal discharge were reported in 72% and eye redness in 81%, skin irritation in 44%. The median duration of symptoms were for respiratory difficulty 2 days, cough 15 days, sputum 14 days, hemoptysis 14 days, chest pain 15 days, nasal discharge 13 days, eye redness 14 days, skin irritation 15 days.

The symptoms were reported to last 2-15 days in contrast to the previous knowledge about the effects of crowd control agents. Recurrent, indoor and short distance exposure in real life may have significant impact on respiratory system especially among smokers. Safety of these products cannot be based only on experimental laboratory data.

Keywords: tear gas, symptom duration, crowd control
Tear gas is accepted as a safe crowd control agent in spite of the fact that adequate lung function data on exposed humans is lacking. The study aims to investigate the lung function of the individuals exposed to tear gas and identify the individuals who are under risk. Lung function measurements were carried out by spirometry on volunteers exposed to tear gas at the site, during the public resistance of “Gezi park” in Istanbul, in June 2013. The measurements were done within the same week of exposure. The study group consisted of 355 individuals with average age of 30.2 years, 49 % female, 64% smokers, 22 % with a chronic disease. The frequency of breathlessness with regard to site of exposure were: 86% indoors, 71 % outdoors with a distance more than 1m (p=0.029). Skin irritation were recorded in 69% individuals exposed indoors, 38% outdoor more than 1m (p=0.00014). The average FVC was 98 %, FEV1 99 %, FEV/FVC 103 %, MMFR 93 % of predicted. 9% of the study group had FVC less than 80 % predicted, 10% FEV1 less than 80% predicted and 10% had MMFR less than 65% predicted. Skin, eye and airway symptoms were seen at an increasing frequency with the distance to the gas source. Evaluation of lung function measurements showed high rate of restriction and/or medium and small airway obstruction. Effects of crowd control gases on lung functions should further be investigated before liberal use of these gases.

Keywords: tear gas, crowd control, respiratory symptoms,
Prevalence of coal workers' pneumoconiosis in Karadon coal mine, Zonguldak, Turkey

Metin Çelikiz¹, Murat Altuntaş¹, Gökhan Aykun¹, Fatih Akça¹, Fırat Uygur², Fatma Erboy², Hakan Tannverdi²
¹uzun mehmet chest and occupational diseases hospital, Zonguldak, Turkey
²department of chest diseases, Bülent Ecevit University faculty of medicine Zonguldak, Turkey

Introduction
Coal workers' pneumoconiosis (CWP) is a parenchimal lung disease that caused by inorganic dust exposure.

Material and Method
During the periodical examination of all coal miners who work in Karadon institution of Zonguldak coal mining area, standard posteroanterior (35x35 cm) chest radiographies of all workers were performed and were assessed by an ILO specialist of radiography reader.

Results
Of the 3705 underground coal workers, 181 had pneumoconiosis. 1327 workers that were employed in 2008 were included this numbers and none of them had a pneumoconiosis. 19 workers had a progression when compared with their previous year radiographies. We detected that all the pneumoconiosis cases were at least 10 years of employed. total prevalence was 4,9% and incidence was 1,9%. Disturbition of lesions were shown on table 1.

Discussion
All cases of pneumoconiosis were micronodulary types. There was no major opacity. In 2009, all areas of Zonguldak 8705 coal workers, 258 had pneumoconiosis (2,9%). Pneumoconiosis incidence was 1,62% (49/3012) and the prevalence was 4,7% (142/3012) in Karadon institution in 2009. In 2011, the prevalence was 2,7% but in 2012 increased to 4,9%. The prevalence that we found in Karadon institution is smilary to world pneumoconiasis prevalence(3-5%).

Keywords: pneumoconiosis, prevalence, coal mining

<table>
<thead>
<tr>
<th>Old cases</th>
<th>New cases</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>p/p 1/1</td>
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<td>3</td>
</tr>
<tr>
<td>p/p 1/2</td>
<td>42</td>
<td>17</td>
</tr>
<tr>
<td>p/s 1/2</td>
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<td>23</td>
</tr>
<tr>
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<td>23</td>
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<tr>
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<td>2</td>
<td>2</td>
</tr>
<tr>
<td>p/s 2/3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>q/q 2/2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>q/t 1/2</td>
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<tr>
<td>q/t 2/2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>121</td>
<td>60</td>
</tr>
</tbody>
</table>

radiographic disturbance of pneumoconiosis
Effect of air pollution on COPD admissions

Tuğba Göktalay¹, Yavuz Havlucu¹, Ayşin Şakar Coşkun¹, Ayşe Nur Tuncal², Pınar Çelik¹, Arzu Yorgancıoğlu¹
¹Celal Bayar University Medical Faculty, Department of Pulmonology, Manisa, Turkey
²Directorate of Public Health, Chronic Disease Unit, Manisa

AIM: The aim of this study is to investigate the effect of particulate matter (PM) and sulfur dioxide (SO2) levels in patients with COPD to hospital admission.

MATERIALS-
METHODS: Between January 2007 - December 2012 in Celal Bayar University Hospital, 4923 patients over the age of 40 diagnosed as COPD at emergency department and chest diseases policlincs were retrospectively evaluated. The daily and monthly average values of PM10 and SO2 concentrations had been obtained from the official data. To ensure standardization in the analysis were based on the European Union limit values. Since SO2 levels are usually normal, was removed from the (n=4180, % 98,3). Patients according to the PM10 values were classified.

RESULTS: 4248 patients were evaluated. 3290 patients (77.5%) were men. Mean age was 63.4 ± 10.9. The most admission was February (n = 521), January (n = 468) and July (n = 430) respectively. PM10 levels, 3116 (73.3%) patients were over the limit. Average PM10 value was 91.61 ± 60.358. Grouped patients evaluated according to the monthly and annual admission rate had statistically significant change (p <0.05). High values were more admissions, but there was no statistically significant (p> 0.05).

Results: PM10 concentrations was high hospital admission due to COPD was induced. But the differences were not statistically significant.

Keywords: COPD, Air Pollution, PM10
Risk Factors for Cronic Thromboembolic Pulmonary Hypertension (CTEPH)

Yusuf Taha Güllü¹, İlknur Başyiğit¹, Tayfun Şahin², Sevtap Gümüştaş³, Serap Banş¹, Haşim Boyacı¹, Füsun Yıldız¹

¹Department of Pulmonary Disease, Kocaeli University, Kocaeli, Turkey
²Department of Cardiology, Kocaeli University, Kocaeli, Turkey
³Department of Radiology, Kocaeli University, Kocaeli, Turkey

AIM: The purpose of this study is to find incidence of CTEPH after pulmonary thromboembolism, the risk factors which facilitate CTEPH progression and to identify CTEPH patients in early stage.

MATERIAL-METHODS: Factor 5, Factor 8, Protein C, Protein S, Antithrombin 3 and genetic mutation panel were evaluated in patients hospitalized with diagnosis of pulmonary thromboembolism in order to determine predisposition to thrombosis. Echocardiography and thorax CT were performed at admission to hospital, at 6th month and first year after admission.

RESULTS: Totally 22 patients were included. The 31.8% of patients were male (n=7), 68.2% were female (n=15) and mean age was 53.94±17.9 years. There was a history of malignancy in 31.8% and a recent surgery history in 27.3% of patients. There was also homozygous MTHFR C677T mutation in our 2 CTEPH patients at follow-up. The PO2 value (61.5±11.4 versus 77.8±25.2 p< 0.05) and RV EF (32.5±3.5 versus 60.6±13.9, p:0.05) were significantly low in CTEPH patients compared with others. The PAP max (75±21 versus 29±12.8, p:0.02) was significantly high and strain (11±0.9’a versus 17.4±3.4, p:0.02) was significantly low in CTEPH patients compared with others.

CONCLUSION: The factors associated with CTEPH development after acute pulmonary thromboembolism was hypoxemia, MTHFR gene mutation, decrease in RV EF and strain, increase in systolic pulmonary artery pressure found in ECHO, increase in RV/LV ratio found in thorax CT. Prospective studies with more patient are needed to clarify the contribution of these variables on further development of disease.

Keywords: CTEPH, ECHO, Pulmonary thromboembolism, Thorax CT
Combination of sPESI and Cardiac Troponin in Outpatient Treatment of Pulmonary Thromboembolism

Savaş Özsu¹, Hayriye Bektaş¹, Yasin Abul¹, Asım Örem², Tevfik Özlü¹
¹Department of Chest Diseases, Karadeniz Technical University, Trabzon, Turkey
²Department of Biochemistry, Karadeniz Technical University, Trabzon, Turkey

It is controversial that which patients will be taken outcome treatment in pulmonary thromboembolism. Our aim is determinantion of outpatients using sPESI and cardiac troponin in pulmonary thromboembolism.

The study was performed prospectively between 02.04.2012 and 13.09.2013. Malignancy was excluded from the scoring of sPESI. Patients seperated into four groups according to troponin and sPESI. Group-1 was consisted with low troponin and low-risk sPESI; group-2 was negative troponin and high-risk sPESI; group-3 was high troponin and low-risk sPESI; grup-4 was high troponin and high-risk sPESI. Primary outcome was defined as all cause of mortality within 90 days. Secondary outcome was defined as recurrens or nonfatal bleeding. Patients in group-1 were treated as outpatient. Troponin was considered as 0,04 ng/mL.

In our study there were 138 patients with pulmonary thromboembolism. There were 36 (%26,1) patients in group-1; 42 (%30,4) patients in group-2; 4 (%2,9) patients in group-3; 56 (%40,6) patients in group-4. There were 19 (%13,8) patients treated as outpatient. Patients %5,7 of group-1; %18,6 of group-2; %50 of group-3, %53,6 of group-4 and of all patients %30,4 were died within 90 days. There were detected recurrens or nonfatal bleeding within 90 days of %8,6 of group-1; %6,9 of group-2; %25 of group-3, %16,1 of group-4 and of all patients %11,6. As a result of patients with low risk sPESI and negative troponin are thought to be safely treated as outpatients.

Keywords: Pulmonary thromboembolism, troponin, sPESI, outpatient treatment
Comparison of LMWH versus UFH for Hemorrhage and Hospital Mortality in the Treatment of Acute Massive Pulmonary Thromboembolism

Elif Yılmazel Uçar¹, Metin Akgün¹, Ömer Araz¹, Hakan Taş², Büşra Kerget¹, Mehmet Meral¹, Hasan Kaynar¹, Leyla Sağlam¹
¹Department of Pulmonary Disease, Ataturk University, Erzurum, Turkey
²Department of Cardiology, Ataturk University, Erzurum, Turkey

BACKGROUND: Current guidelines recommend the use of low molecular weight heparin (LMWH) for most haemodynamically stable patients with pulmonary thromboembolism (PTE), however, whether LMWH is preferable to unfractionated heparin (UFH) for the treatment of massive PTE. In order to assess the utility of LMWH vs. UFH after thrombolytic treatment in the management of acute massive PTE, we conducted a single center randomized clinical trial.

METHODS: The study, a randomized, parallel design trial, included the patients who had confirmed diagnosis of massive PTE according to clinical findings and computerized thorax angiography and no contraindication to the treatment between January 2011 and October 2013. After thrombolytic treatment, the patients assigned to therapy with LMWH or UFH. Any hemorrhage, major hemorrhage and hospital mortality were assessed.

RESULTS: A total of 121 patients, 71 female (58.7%) and 50 male (41.3%), who had massive PTE with an average age 62.6±15.7 (ranges 22-87) were included for analyses in the study. They were allocated to either LMWH (n=60) or UFH (n=61) group. Although the occurrence of any adverse event (21.7% vs 27.9%) and each individual type of adverse event were all lower in the LMWH group compared to UFH group (6.7% vs 11.5%, 3.3% vs 9.8% and 15.0% vs 19.7% for death, major hemorrhage and any hemorrhage, respectively) the differences were not statistically significant.

CONCLUSIONS: Our findings suggest that LMWH might be better option in the management of the patients with massive PTE. Multi-center larger randomized controlled trials are required to confirm our results.

Keywords: Pulmonary thromboembolism, thrombolytic treatment, low molecular weight heparin, unfractionated heparin
Malignancy and pulmonary thromboemboli: Comparison of symptomatic cases with the incidental ones

Serap Argun Barış¹, Tuğba Aşlı Önyılmaz¹, Sevtap Gümüştaş², Halil İbrahim Ada², Devrim Çabuk³, İlknur Başyüşit¹, Haşim Boyacı¹, Füsun Yıldız¹
¹Department of Pulmonary Diseases, Kocaeli University Faculty of Medicine, Kocaeli, Turkey
²Department of Radiology, Kocaeli University Faculty of Medicine, Kocaeli, Turkey
³Department of Medical Oncology, Kocaeli University Faculty of Medicine, Kocaeli, Turkey

AIM: The aim of this study was to compare the symptomatic and incidental pulmonary emboli cases in oncologic patients. Material-

METHOD: The medical data of the patients diagnosed as pulmonary embolism (ICD:1.26) and had an underlying malignancy were evaluated retrospectively from the hospital records between the years of 2009 and 2013. The demographic characteristics, duration of the disease, type of malignancy, presence of the metastasis, history of chemotherapy were recorded. Right ventricle dilatation findings were evaluated from the thorax CT.

RESULTS: There were 38 women (44.2%), 48 men (55.8%), totally 86 patients whose mean age was 61.7±11.9 years and the median duration of follow-up was 6 months. The most common underlying malignancies were gastrointestinal (29.4%), genitourinary (21.2%) and breast cancers (10.6%). Pulmonary thromboemboli was diagnosed incidentally on routine control thorax CT in thirty-nine of the cases (45.3%). When the incidental cases compared to symptomatic ones; no statistically significant difference was found with respect to the type of malignancy, chemotherapy history, presence of metastasis and evidence of septum flattening on thorax CT. The presence of thrombus in main pulmonary artery and bilaterally involvement were found as increased in symptomatic cases compared to incidental ones however the difference was not statistically significant. It was found that the RV/LV ratio was significantly higher in symptomatic cases (p=0.03).

CONCLUSION: A considerable number of pulmonary thromboemboli episodes could be asymptomatic in malignant patients. It is suggested that the sub-massive clinical course and preserved right ventricle functions could be the reason of asymptomatic events.

Keywords: malignancy, pulmonary thromboemboli, incidental
94 patients were referred to Ege University PAH referral Centre with a putative diagnosis of chronic thromboembolism (CTE). The diagnosis was confirmed in 51 patients. Four patients were eliminated from the study because pulmonary arterial pressure data was not available. For the 47 patients included in the study, the median age was 53 years (range 19 to 85) and 25 were male. 46 patients underwent echo cardiography (ECHO) and 27 had right heart catheterisation (RHC). 21 of the 27 patients undergoing RHC had a mean pulmonary pressure of 25 mmHg or greater with increased pulmonary vascular resistance and a pulmonary capillary wedge pressure of less than 15 mmHg; these were deemed to have pulmonary hypertension. No patient with a right ventricular systolic pressure on ECHO below 36 mmHg was found to have high mean pulmonary artery pressure on RHC. Of those not undergoing RHC, a pressure estimated on ECHO of 36 mmHg was considered diagnostic of pulmonary hypertension in our study group. Overall, 38 patients were considered to have pulmonary hypertension and 9 were considered not to have pulmonary hypertension. The study group were followed up for a median of 16 months. All 9 patients with normal pressures remain alive to date, while 18 of the 38 hypertensive patients have died (p=0.008). Kaplan-Meier survival analysis yielded a p value of 0.053 for the difference in survival between these two groups. CTE commonly induces pulmonary hypertension, which is predictive of poor survival.

Keywords: chronic tromboembolism, pulmonary hypertension
Combination and comparison of two models in prognosis of pulmonary embolism: Results from Turkey Pulmonary Embolism Group (TUPEG) study

Savaş Özsu¹, Tevfik Özlü², Ayşegül Şentürk³, Elif Yılmazel Uçar³, Gamze Kırkıl⁴, Esra Ekbiç Kadioğlu⁵, Bülent Altınsoy⁶, Bengü Şaylan⁷, Hatice Şen Selimoğlu⁸, Gül Dabak⁹, Nuri Tutar¹⁰, Ahmet Uysal¹¹, Tübeg Çalışmacılar¹ ¹Karadeniz Technical University, School of Medicine, Department of Pulmonary Medicine ²Ankara Atatürk Training and Research Hospital, Department of Pulmonary Medicine ³Atatürk University School of Medicine, Department of Pulmonary Medicine ⁴Fırat University School of Medicine, Department of Chest ⁵Erzurum Regional Training and Research Hospital, Department of Pulmonary Medicine ⁶Bülent Ecevit University School of Medicine, Department of Pulmonary Medicine ⁷Ümraniye Training and Research Hospital, Department of Pulmonary Medicine ⁸Dicle University School of Medicine, Department of Pulmonary Medicine ⁹Koşuyolu Training and Research Hospital, Department of Pulmonary Medicine ¹⁰Erciyes University School of Medicine, Department of Pulmonary Medicine ¹¹Ege University School of Medicine, Department of Pulmonary Medicine

BACKGROUND: Clinical parameters, biomarkers and imaging-based risk stratification are widely accepted in pulmonary embolism (PE). The present study has investigated the prognostic role of simplified Pulmonary Embolism Severity Index (sPESI) score and the European Society of Cardiology (ESC) model.

METHODS: This prospective cohort study included a total of 1078 patients from a multi center registry with objectively confirmed acute symptomatic PE. The primary endpoint was all-cause mortality during the first 30 days, and the secondary endpoint included all-cause mortality, nonfatal symptomatic recurrent PE, or nonfatal major bleeding.

RESULTS: Of the 1078 study patients, 95 (8.8%) died within 30 days of diagnosis. There was no significant difference between non-low-risk patients ESC [12.2% (103 of 754;)] and high-risk patients as per the sPESI [11.6% (103 of 796)] for 30-day mortality. The nonfatal secondary end point occurred in 2.8% of patients in the the sPESI low-risk and 1.9% in the ESC low-risk group. 30-day mortality occurred in 2.2% of patients in the the sPESI low-risk and 2.2% in the ESC low-risk group (P=NS). In the present study, in the combination of the sPESI low-risk and ESC model low-risk mortality rate was 0%.

CONCLUSIONS: The sPESI and the ESC model showed a similar performance regarding 30-day mortality and secondary outcomes in the present study. However, the combination of these two models appears to be particularly valuable in PE.

Keywords: pulmonary embolism, sPESI, ESC
Prognostic Value of Simplified Pulmonary Embolism Severity Index in Patients with Acute Symptomatic Pulmonary Embolism

Talat Kılıç1, Hilal Ermiş1, Gazi Gülbüş1, Ömer Kaya2, Zeynep Ayfer Aytemur1, Süleyman Savaş Hacıevliyagil1
1Department of Pulmonary Medicine, Inonu University, Malatya, Turkey
2Ministry of Health, Hasan Calık State Hospital, Malatya, Turkey

Although technology of diagnosis and treatment continues to improve, the mortality rate of pulmonary embolism (PE) remains high. The severity of PE should be understood as an individual estimate of PE-related early mortality risk rather than the anatomical burden and the shape and distribution of intrapulmonary emboli. Hence, current guidelines suggest replacing potentially misleading terms such as ‘massive’, ‘submassive’ and ‘non-massive’ with the estimated level of the risk of PE-related early death. Clinical models consisting of hemodynamic status and concomitant diseases are recommended for evaluation of PE severity and prognosis. Recently, PE severity index (PESI) and simplified PESI (sPESI) which was derive from PESI and more practical are getting popular. Patients having one of the parameters listed in table 1 were assessed as high risk based on sPESI, patients with none of these parameters were defined as being at low risk. In this study, it was investigated that the performance of prognostic model of sPESI for predicting 30-day mortality in patients with acute PE.

Mean age of enrolled 194 patients (93 male) were 60.84±16.70. While 81 (41.8%) of 194 patients were in the low-risk group according to sPESI, 113 (58.2%) patients were in high-risk group. There were no deaths within 30-day after the diagnosis of PE in the sPESI low-risk patients as opposed to 15.9% (18 of 113) mortality in high-risk group. Furthermore, while the sensitivity and NPV of sPESI for predicting 30-day mortality were 100%, specificity and PPD were 46% and 16%, respectively. In conclusion; because the sPESI has higher NPV for predicting 30 days mortality, we think that the low risk patients based on sPESI could be treated as outpatients

Keywords: Pulmonary embolism, prognosis, sensitivity, severity index

Table 1. Simplified Pulmonary Embolism Severity Index (sPESI)

<table>
<thead>
<tr>
<th>Variable</th>
<th>point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age &gt;80</td>
<td>+1</td>
</tr>
<tr>
<td>Cancer</td>
<td>+1</td>
</tr>
<tr>
<td>History of heart failure or chronic lung disease</td>
<td>+1</td>
</tr>
<tr>
<td>Pulse &gt;=110 beats/min</td>
<td>+1</td>
</tr>
<tr>
<td>Systolic blood pressure &lt;100 mmHg</td>
<td>+1</td>
</tr>
<tr>
<td>Arterial oxyhemoglobin saturation&lt; %90</td>
<td>+1</td>
</tr>
</tbody>
</table>

sPESI classification: Low risk: 0 point; High risk >=1 point.
Comparision of catheter-directed therapy with the systemic thrombolysis for the treatment of acute pulmonary embolism with right ventricular dysfunction

Aslı Görek Dilektaslı¹, Ezgi Demirdöğen Çetinoğlu¹, Nilüfer Aylin Acet¹, Cüneyt Erdoğan², Ahmet Ursavaş¹, Funda Coşkun¹, Ercüment Ege¹

¹Department of Pulmonary Diseases, Uludag University Faculty of Medicine, Bursa, Turkey
²Department of Radiology, Uludag University Faculty of Medicine, Bursa, Turkey

BACKGROUND: Catheter-directed therapy (CDT) of pulmonary embolism (PE) has been considered as an alternative to systemic thrombolysis (ST) in acute PE in the presence of contraindications for SIT. We aimed to evaluate the efficacy and safety of CDT in comparison with SIT in the management of acute PE with right ventricular dysfunction (RVD).

MATERIAL-METHODS: Medical records of acute PE patients with RVD diagnosed in Uludağ University Hospital between 2007-2013 whom treated by CDT were reviewed. Afterwards PE patients treated by CDT were matched by age, sex, mean pulmonary artery pressure, oxygen saturation and shock index at admission with a PE patient whom received ST. The primary, secondary and tertiary outcomes were mortality, major and minor complications and the change in hemodynamic parameters in the first 24 hours of the intervention, respectively.

RESULTS: A total of 32 acute PE patients with a meanage of 58.5±15.3 years were included. Seventeen (53%) and fifteen (47%) of the study group were diagnosed as massive and submassive PE, respectively. CDT was performed in six (40%) patients with massive PE and nine (60%) with submassive PE. All-cause mortality, major and minor bleeding complications did not differ among CDT and ST groups (p>0.05). Haemodynamic parameters were stabilized in 93% of CDT group and 76.5% of the ST group in the first 24 hours (p>0.05). 24th hour systolic blood pressure (116±13 mmHg vs. 110±23 mmHg, p=0.078) and diastolic blood pressure (72±4 mmHg vs. 67±9 mmHg, p=0.017) were found to be higher while heart rate (88±16 mmHg vs. 90±10 mmHg, p=0.068) were found to be lower in the CDT group.

CONCLUSION: CDT is a safe and effective treatment option for acute PE with RVD. It should be considered as a first-line treatment for patients having contraindications for ST with acute PE and RVD in experienced centers.

Keywords: pulmonary embolism, catheter-directed therapy, thrombolysis
Trend and risk factors of drug resistance tuberculosis between 2005-2012 in Istanbul, Turkey

Aylin BABALIK1, Soydan Sinem Köymen2, Ayşegül Yıldırım3, Zeki Kilicaslan4
1Sureyyapasa Chest Disease and Thoracic Surgery Training and Research Hospital, Istanbul, Turkey.
2Istanbul public health directorate Tuberculosis Branch
3Türkiye public health directorate, department of tuberculosis
4Department of Pulmonology, Istanbul University Istanbul Faculty of Medicine

The proportion of drug-resistant TB cases is a useful indicator for assessing the performance of a TB control programme. The aim of this study is thus to Detection of prevalence and trend resistance and evaluate risk factors for any drug-resistant TB and MDR-TB in Istanbul, Turkey between 2005-2012.

METHODS: This study is a retrospective cohort study involving tuberculosis patients receiving treatment between 1st January 2005 and 31st December 2012 carried out at TB dispensaries in Istanbul. Patients who were not tested culture methods (n=20.365), patients who had culture negative (n=5413). In patients who had culture positive (n=19.775), patients had not tested DST (n=2654). Patients who were tested with TB drug susceptibility were analyzed (n=17.121).

RESULTS: Rating TB population tested for drug susceptibility was seen increasing (24.0% vs 47.6 %). Rating any drug resistance; in total cases (11.7% vs 15.9%), in previous treated cases (25.6% vs 34.9%), Rating MDR; in total cases (5.6% vs 6.2%), in previous treated cases (16.4 % vs 23.1%) was increasing. Any drug resistance was significantly high (AOR (1.43 (1.18–1.75)) in 2012 according to 2005. In other country birth, Any drug resistance (AOR (2.21 (1.69–2.89)), MDR (AOR (3.36 (2.41-4.70)) was found significantly high. In previous treated history, Any drug resistance (AOR (3.18 (2.85-3.54)), MDR-TB (AOR (6.70 (5.82-7.72)) was found significant in previous treated history.

CONCLUSION: Rating TB population tested for drug susceptibility is increasing by years. Information remains incomplete in the world. Other country birth and previous treatment history should be more closely follow up.

Keywords: İlaç resistans prevalansı, tuberkülösis
INTRODUCTION: Tuberculosis prevalence of patients who were on therapy of tumor necrozing factor antagonists (TNF) was 449/100.000. Here we evaluated the clinical characteristics of our patients who had tuberculosis infection during the therapy of TNF antagonists.

Methods: Patient's demographics, smoking history, underlying disease and disease duration, history of tuberculosis (contact, tuberculin skin test, prophylaxis of isoniazid), type of TNF antagonist and duration and the other immunosuppressive drugs were recorded.

RESULTS: Files of 1794 patients followed between August 2005-June 2013 were evaluated. Tuberculosis was detected in 20 patients (%1). Most of our patients were male (%65, n=13). Mean age was 42.3±10.41 years. Most of them were smokers (%70, 18.8±14.5 pack-year) and %35 were active smokers. Indication for TNF antagonists were; ankylosing spondylitis (%40, n=8), Crohn disease (%25, n=5), rheumatoid arthritis (%10, n=2), Behcet disease (%10, n=2), psoriatic arthritis (%10, n=2), hidroadenitis suppurativa (%5, n=1). Infliximab is the most common used (%50, n=10) TNF antagonist. Contact with tuberculosis was reported in 25% (n=5) of our patients. Only one patient reported tuberculosis disease in the past history. All patients had TST and chest graphy before TNF therapy. Patients with TST >=5 mm and fibrotic lesion sequelae on chest graphy were given p.o 300mg isoniazid prophylaxis for 9 months (%90, n=17). Baseline TST was 9.7±6.7. Tuberculosis was growth 25.1±24.9 months after TNF antagonist usage. Most of our patients had pulmonary tuberculosis (%65, n=13) MOTT was growth in one of these patient culture. Seven patients had extrapulmonary tuberculosis. Immunosuppressive therapy (methotrexate, azathioprine, cyclosporine) were given to 55% of the patients.

CONCLUSION: Although isoniazid chemoprophylaxis were given to the patient using TNF antagonists. Tuberculosis disease was detected in high frequency.

Keywords: TNF antagonist, tuberculosis, tuberculosis skin test
Diagnostıc and treatment delays among patients with pulmonary tuberculosis and family medicine

Yeşim Yasin
Acıbadem University, Faculty of Medicine, Department of Public Health

The main objectives of National Tuberculosis Programs (NTP) are to break the chain of transmission and immediately treat the patients with an active disease. That entails fast case-finding. Hence, the length of delay in diagnosis and treatment is one of the most important parameters by which the success of NTPs can be measured.

**OBJECTIVE:** To understand the length of diagnostic and treatment delay among new pulmonary tuberculosis (TB) cases, examine the reasons behind these delays, and question how the transition to family medicine did and could affect the NTP.

**MATERIAL-METHODS:** A questionnaire was administered to 291 newly diagnosed smear positive TB patients in seven anti-TB clinics in Istanbul between January and December 2012 period; the outcome of this cross-sectional study was evaluated by relevant statistical methods. Moreover, in-depth semi-structured interviews were conducted as a part of a qualitative study with 10 family physicians, 10 family healthcare personnel who work with these physicians, and 10 physicians who have been in TB circles for years.

**RESULTS:** The mean diagnostic delay among women is 66.0 ± 80.3 days whereas it is 54.7 ± 75.9 among men; the mean delay in treatment was 4.2 ± 11.9 days among women whereas it is 3.5 ± 10.7 days among men. When setting a cutoff for 30 days for total delay, this period is significantly shorter in men comparing to women. In the qualitative part of the study, the most remarkable findings were Directly Observed Therapy (DOT) problems in practice, and also stigmatization of TB.

**Keywords:** tuberculosis, treatment delay, diagnostic delay, stigmatization, family medicine

Relation between gender and total delay

<table>
<thead>
<tr>
<th>Table 1: Classiﬁer ile toplam göreceli hücreli</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Toplam</strong></td>
</tr>
<tr>
<td>erkek</td>
</tr>
<tr>
<td>kadın</td>
</tr>
<tr>
<td><strong>Toplam</strong></td>
</tr>
</tbody>
</table>

\[\chi^2 = 4.216, \quad df = 1, \quad p = 0.0409\]
Evaluation of treatment interrupted pulmonary cases in Istanbul, 2005-2011

Soydan Sinem Koyman¹, Aylin Babalık², Zeki Kılıçaslan³

¹Istanbul public health directorate Tuberculosis Branch
²Sureyyapasa Chest Disease and Thoracic Surgery Training and Research Hospital, Istanbul, Turkey
³Department of Pulmonology, Istanbul University Istanbul Faculty of Medicine

Aim
Aim of the study is evaluate of demographics and treatment outcome, resistant of treatment-interrupted cases.

METHODS
Registered national data 708 (1.7%) treatment intrusted cases of 41.300 tuberculosis cases in Istanbul between 2005-2011 from Registered national data were included this study. Missing data was completed from medical records. Demographics characteristics, resistant, risk factors of treatment outcomes were analysed with linear regression analysis.

RESULTS
585 (%82.6) Male, average years old 37, % 91.5 of total cases were pulmonary tuberculosis. %90.7 of pulmonary tuberculosis were tested sputum smear; % 77 of them was found smear positive. %69 of cases were found culture positive and % 61.3 of them were tested drug susceptibility test. %15.1 of them was found any resistant, %6.6 of them was found MDR. Treatment outcome results were found treatment success (%55.7), treatment default (%38.6), failure (%1.7) death (%3). Adverse treatment outcome (treatment default, death, failure) was found significant in male (p=0.02), years (p=0.02). Treatment default was significant found in male (p=0.02) and years (p=0.03); Death was found significant in older age (p=0.03), failure was found significant in MDR (p=0.03).

CONCLUSION
Treatment default rate was found higher than all cases. Treatment default is still continuing on close to half of treatment interrupted cases. Closer following to male, resistant and older cases is necessary.

Keywords: Treatment interrupted, treatment outcome
AIM
Aim of this study is evaluation of prevalent and diagnosis/treatment problems tuberculosis menenjit in Istanbul, 2009-2012.

Methods
Data of TB menenjit cases was evaluated from Istanbul Public Health department and medical records from Tb dispensaries'. Missing data was completed from calling TB menenjit cases.

RESULTS
158 (%0,77,158/20507) TB menenjit cases were diagnosed in Istanbul between 2009-2012. 81 % of cases were male. 3 (%1,9) cases were in 0 age year, 15 (%9,5) cases were in 0-4 age year, 28 (%17,7) cases were in 0-14 age year, 32 (20,2) cases were in 15-24 age year. Prevelans of TB in 0-14 age year was 5.2 per 10 million according to population of 2009-2012. Diagnosis of menenjit was found 12,7 % bakteriyolojic, %3,8 patolojic % 83,5 clinical. 34% of 130 cases who had BCG scar record was not found BCG. Rate of BCG scar was found %26.1 (6/23) in 0-14 age. Treatment duration, %5 of cases were 6-8 mouth, %73,4 of cases were 9-12 mouth, %12,6 of cases were longer than 12 month. Treatment outcome; %91,2 of cases were treatment succes, %2,5 of cases were treatment default, %6,3 of cases were death.

CONCLUSION
TB Menejit was found still significant problem in adults and children in Istanbul. BCG scar rate was low in TB menenjit. A few of TB menenjit was diagnosed with bakteriyolojic and/or patologic results.

Keywords: tuberculosis menenjit
Istanbul Tuberculosis declaration analysis, 2011-2013

Soydan Sinem Soydan¹, Oyar Sarateş¹, Savaş Başar Kartal²
¹İstanbul Public Health Directorate, tuberculosis branch
²İstanbul Halk Sağlığı Müdürlüğü

AIM “Tuberculosis Cases declaration in the Active Surveillance Application” system data is presented and analyses.

METHODS: Responsible officer of active surveillance in June 2013 has been set. Officials began to treat tuberculosis or all patients with symptoms with tuberculosis have reported to Istanbul Directorate of Public Health (IDPH). patients recorded in VSD, treatment is carried out, the early close contacts can be inspected. Decleration can done by Electronic tuberculosis management system (ETMS). Education of ETMS has been given 66 cases (public hospital), 74 cases (university and private hospital) in Istanbul. Declerated tuberculosis patient has been recorded and application DOT in TB dyspanseries. Patients who had not declerated are detected and provided decleration. Laboratory surveillance was initiated in the year 2012, laboratory and patient records were identified by comparing patients with unregistered.

RESULTS: Rate of declaration of TB is increasing by year. Total declerated patients / Recorded Tb dyspanseries patients, 2.352/5.239 (%45) in 2011, 5.317/4.909 (%108) in 2012 ve 3.989/3.892 (%102) in 2013 10 month. Rate of declaration is increasing by year university, education hospital. 98% of declaration is from city.
In analyses of patients who had not declerated, 50.7% of cases in 2012, 51.8% of cases were lung tb patients. 25.4% of them in 2012 and 28.1% of them had smear positive cases. 189 of patients who had not declerated were other country of birth.

CONCLUSION: Active Surveillance declaration is increasing in İstanbul. More effort shoul be made for improving of system.

Keywords: Declaration of Tb
SS035 [Tuberculosis]

**Distribution Of Tuberculosis Patients' Age, Gender and Disease Location, Observed in 4th Tuberculosis Dispensary / Ankara Between 1991-2010**

Öztuğ Önal¹, Emel Kibaroğlu²
¹Ankara 4th Tuberculosis Dispensary
²Federation of National Anti-Tuberculosis Associations

**PURPOSE:** Evaluating the progression of tuberculosis (TB) control programme by observing age, gender of patients and location of disease in a 20 years period.

**METHOD:** By using dispensary records, 1928 TB patients have been analyzed in four distinct five years period.

**RESULTS:** According to our 20 years data,
- Average age of TB patients increased from 33.8 to 41.9
- Average age of male TB patients increased from 34.4 to 40.7
- Average age of female TB patients increased from 33.1 to 43.5
- Average age of non-pulmoner TB patients increased from 26 to 42.5
- Percentage of male TB patients decreased from 73% to 57%
- Percentage of female TB patients increased from 27% to 43%
- Non-pulmoner TB patients’ percentage increased from 24% to 40%.

**CONCLUSION:** Non-pulmoner TB diagnose is not easy but, under the light of 20 years data, it was shown that number of non-pulmoner TB cases are increasing. Meanwhile, percentage of female TB patients increasing and average age of TB infection increasing. These results show that, a good TB control programme was being performed for long years in Ankara and suggesting that an elimination programme can be implemented.

**Keywords:** age, gender, tuberculosis
INTRODUCTION:
Despite the advances indiagnostic tests, availability of inexpensivecurative treatment, tuberculosis remains oneof thethree mostimportant infectious diseases intheworld in terns of mortality and morbidity. The varied immunologic response is reflected in the diverse clinical manifestations ranging from asymptomatic infection with a positive tuberculinskitest to hematogenous dissemination with severe disease. The most frequent immunedeficiencies predisposition to tuberculosis(tbc) are chronicgranulomatousdisease(CGD), humanimmunodeficiencyvirus infection(HIV), severecombined immunodeficiency(SCID)and mendelian susceptibilitytymycobacterial disease(MSMD).

METHOD:
Children diagnosed with chronic granulomatous disease(CGD), severe combined immunodeficiency(SCID) and mendelian susceptibility to mycobacterial disease(MSMD) followed together with pediatric pulmonology and immunology departmentof HacettepeUniversityFaculty of Medicine are included this study. 44cases diagnosed with tuberculosis disease and lymphadenitis after BCG vaccine have been evaluated for treatment modalities and prognosis.

RESULTS:
There are 44patients diagnosed with chronic granulomatous disease and 3patients with BCGlymphadenitis, 3patients with miliary tbc, 1patient with vertebral tbc, 8patients with pulmoner tbc, 1patient with tbc lymphadenitis, 1patient with tbc brain abscess. Two of these patients were tbcPCRpositive. There are 15patients with IL12βreceptor defect and 3patients with disseminated tbc, 4patients with tbc lymphadenitis, 1patient with tbc meningitis. Two of the patients diagnosed with IFNγreceptor defect diagnosed with tbclymphadenitis. There are 88patients diagnosed with SCID and 7patients with BCGlymphadenitis, 3patients with miliarytbc, 3patients with pulmonertbc, 1patient with intraabdominal abscess, 3patients with subcutaneous nodules. M.tuberculosisis complex was isolated from the nodules.Isoniazid, Rifampicin, Ethambutol, Streptomycin, Clarithromycin and Ciprofloxacillin were used for treatment for 9-12 months. 6patients diagnosed with tuberculosis died during the clinical follow-up.

DISCUSSION:
CD4T+ lymphocytes and IFNγ have the main role in tuberculosis; also γδT cells, CD8+ T lymphocytes and NK cells take part in the immunity to tuberculosis. We want to notice that this axis should be evaluate in patients diagnosed with disseminatedtbc.

Keywords: Tuberculosis, immune deficiency, BCG lymphadenitis
Diagnostic value of thoracic ultrasonography in lung and pleural diseases

Özlem Taşçı¹, Osman Nuri Hatipoğlu¹, Bekir Çağlı², Veli Ermiş²
¹Department of Chest Diseases, Trakya University, Edirne, Turkey
²Department of Radiology, Trakya University, Edirne, Turkey

Primary purpose of our study was to compare the efficacy of high-frequency (linear, 5-10Mhz) and low-frequency (sector, 1-5Mhz) ultrasonography probes in detecting basic lung and pleural pathologies; secondary purpose was to compare diagnostic performances of thoracic ultrasonography with chest radiography and auscultation.

Fifty five consecutive patients who underwent thoracic computed tomography during hospitalization in chest diseases department enrolled in the study prospectively. Patients were evaluated by thorax computed tomography, thoracic ultrasonography, chest radiography and auscultation for pneumothorax, pleural effusion, consolidation and interstitial syndrome. Thoracic ultrasonography and auscultation were evaluated by a pulmonologist blindly. The probes firstly used in thoracic ultrasonography were selected randomly. Computed tomography and chest radiography were evaluated by a pulmonologist and a radiologist independently and blindly. Thoracic ultrasonography, chest radiography and auscultation results compared with gold standard thoracic computed tomography results.

Linear probe has the highest performance in pneumothorax (sensitivity 83%, specificity 100%, diagnostic accuracy 99%) and pleural effusion (sensitivity 100%, specificity 97%, diagnostic accuracy 98%) and the sector probe has the highest performance in consolidation (sensitivity 89%, specificity 100%, diagnostic accuracy 95%) and interstitial syndrome (sensitivity 94%, specificity 93%, diagnostic accuracy 94%). The performance of ultrasonography in all pathologies were followed by chest radiography and auscultation, respectively.

In conclusion, the diagnostic performance of thoracic ultrasonography in lung and pleural diseases is higher compared to the chest radiography and auscultation. Pathology based probe selection is important and linear probe is superior to sector probe for pleural pathologies, whereas the sector probe is superior to linear probe for parenchymal pathologies.

Keywords: diagnosis, lung and pleural diseases, probe, thoracic ultrasonography

Consolidation (linear probe)

A-Pleura, B-Consolidation
## Pleural effusion (sector probe)

A- Pleural effusion, B- Collapsed lung

### Diagnostic test results compared to thorax computed tomography

<table>
<thead>
<tr>
<th>Diagnostic test</th>
<th>Pneumothorax (+)</th>
<th>Pneumothorax (-)</th>
<th>Pleural effusion (+)</th>
<th>Pleural effusion (-)</th>
<th>Consoliation (+)</th>
<th>Consoliation (-)</th>
<th>Interstitial syndrome (+)</th>
<th>Interstitial syndrome (-)</th>
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</thead>
<tbody>
<tr>
<td>Ultrasonography with linear probe (+)</td>
<td>5</td>
<td>0</td>
<td>32</td>
<td>2</td>
<td>42</td>
<td>1</td>
<td>52</td>
<td>2</td>
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<tr>
<td>Ultrasonography with linear probe (-)</td>
<td>1</td>
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<td>Posteroanterior chest radiography (+)</td>
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<td>Auscultation (-)</td>
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<td>24</td>
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</tbody>
</table>
Diagnostic value of PET-CT in pleural diseases

Kemal Can Tertemiz¹, Aylin Özgen Alpaydın¹, Volkan Karaçam², Atila Akkoçlu¹
¹Dokuz Eylül University School of Medicine, Pulmonary Medicine
²Dokuz Eylül University School of Medicine, Thoracic Surgery

INTRODUCTION: Contribution of pleural needle biopsy for diagnosis of pleural effusion differs according to extensiveness of pleural invasion and disease type. We analysed the diagnostic concordance of pleural needle biopsy and VATS biopsy and the correlation between pleural needle biopsy and pathological SUV uptake in PET-CT.

METHOD: We analysed pleural needle biopsy results of 98 patients retrospectively.

RESULTS: 24 patients were diagnosed as malignant, 62 as benign and 12 as non-diagnostic with pleural needle biopsy. VATS was performed in 48 patients. Table 1 shows comparison between pleural needle biopsy and VATS biopsy. PET-CT was performed for 49 patients and 33 have pathological SUV uptake. Malignancy was diagnosed with pleural needle biopsy in 12 patients, 13 with VATS biopsy and one with open lung biopsy in patients with pathological SUV uptake. Seven patients of 16 with non-pathological SUV uptake have malignancy end diagnosis (6 VATS, one pleural needle biopsy). Most of these patients have metastatic tumours other than lungs. (2 lung cancer, 3 lymphoma, colon and breast cancer). Malignancy diagnosis with pleural needle biopsy was significantly higher in patients with pathological SUV uptake (p<0.05). Pathological SUV uptake and malignancy diagnosis was statistically significantly correlated (p<0.05). (Table 3)

DISCUSSION: Pathological SUV uptake in PET-CT shows malignancy with high rates. Patients suspected from malignancy with non-pathological SUV uptake should be evaluated directly for VATS biopsy due to low diagnostic rates with pleural needle biopsy.

Keywords: pleural disease, PET-CT, VATS

Comparison between pleural needle biopsy and VATS biopsy

<table>
<thead>
<tr>
<th></th>
<th>VATS</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Benign (n,%)</td>
<td>Malign (n,%)</td>
<td>Total (n)</td>
</tr>
<tr>
<td>Pleural needle biopsy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-diagnostic</td>
<td>3, %33</td>
<td>6, %66</td>
<td>9</td>
</tr>
<tr>
<td>Benign</td>
<td>20, %57</td>
<td>15, %43</td>
<td>35</td>
</tr>
<tr>
<td>Malign</td>
<td>0, %0</td>
<td>4, %100</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>23, %48</td>
<td>25, %52</td>
<td>48</td>
</tr>
</tbody>
</table>

Pathological SUV uptake and malignancy diagnosis correlation

<table>
<thead>
<tr>
<th></th>
<th>End diagnosis</th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Benign (n,%)</td>
<td>Malign (n,%)</td>
<td>Total (n)</td>
</tr>
<tr>
<td>Pathological SUV uptake</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>9, %56</td>
<td>7, %44</td>
<td>16</td>
</tr>
<tr>
<td>Yes</td>
<td>7, %21</td>
<td>26, %79</td>
<td>33</td>
</tr>
</tbody>
</table>
Is Propofol must added to Midazolam premedication in EBUS-TBNA Procedure?

Selahattin Öztas, Ülkü Aka Aktürk, Levent A Alpay, Burhan Meydan, Hamza Ögün, Mahşuk Taylan, Murat Yağcınsoy, Haluk C Çalışır, Dilek Ernam, Ali Metin Görgüner
1Sureyyapasa Chest Diseases and Thoracic Surgery Education and Research Hospital, Chest Diseases Department, Istanbul, Turkey
2Sureyyapasa Chest Diseases and Thoracic Surgery Education and Research Hospital, Thoracic Surgery Department, Istanbul, Turkey
3Sureyyapasa Chest Diseases and Thoracic Surgery Education and Research Hospital, Anesteziology Department, Istanbul, Turkey
4Dicle University medical faculty pulmonology department, Diyarbakır, Turkey

Endobronchial ultrasound guided transbronchial needle aspiration (EBUS TBNA) is a actual method used in the diagnosis and/or staging of pulmonary diseases. Use of premedication drugs are different among centers before the procedure. Besides the midazolam sedation, use of propofol to suppress the cough reflex and loss of consciousness, provide a comfortable procedure. However, some centers do not prefer propofol, due to its hypotension and respiratory depression effects. We aimed to compare the diagnostic effectiveness and complication of cases which were given propofol and other not given it during EBUS TBNA procedure.

Totaly 224 patient were included to the study. propofol (1 -1.5 mg / kg) with midazolam (0.05 to 0.1 mg / kg) administered to 144 patients, while 88 patients just given pure midazolam (0.05 to 0.1mg / kg) as a premedication. Results were tested by chi-square analysis between two groups. Diagnosis rate was 77.1% in the group receiving propofol plus midazolam, while 83.8% were found in the pure midazolam group. No significant difference were seen between two groups. (p=0.156). There were not seen any complication in pure midazolam group, however hypoxia was seen in the three cases and in one case hypotension developed in propofol added group. The procedure could not be performed due to hypoxia in a case.

CONCLUSION: Propofol did not appear to contribute additional diagnostic effect in EBUS TBNA procedure. Propofol is helpful to process to be comfortable, but side effects such as hypoxia and hypotension may be seen rarely.

Keywords: EBUS-TBNA, premedication, propofol
Long Term Follow-up Of Patients Their Thorocoscopic Pleural Biopsies Resulted As Nonspecific Pleuritis

Gülşah Günlüoğlu, Aysun Ölçmen, Zeki Günlüoğlu, Adnan Sayar, İbrahim Dinçer, Güngör Çağmazı, Veysel Yılmaz, Sedat Altın

1Yedikule Chest Disease and Thoracic Surgery Educational and Research Hospital, Chest Disease, Istanbul
2Yedikule Chest Disease and Thoracic Surgery Educational and Research Hospital, Thoracic Surgery, Istanbul
3Medipol University, Medicine Faculty, Thoracic Surgery, Istanbul

Background
Thoracoscopic pleural biopsy is an alternative method to obtain a diagnosis for patients having exudative pleural effusions (EPE) and no specific diagnosis established after thoracentesis and closed pleural biopsy. Although thoracoscopic pleural biopsy, in about 20% of the EPE patients, the diagnosis is as non-specific pleuritis (NSP). We aimed to report long term follow-up results of the EPE patients diagnosed as have NSP after videothoracoscopic (VATS) pleural biopsy.

Methods
We retrospectively evaluated our patients have EPE, the diagnosis could not been obtained and pleural biopsy through VATS had been taken between 2008 and 2012. The patients their pathologic evaluation had resulted as NSP were included. Their long term follow-up results were analyzed.

Results
There were 40 male and 13 female with a mean age of 54. Mean follow-up time was 22.91 months. During follow-up time, malignant mesothelioma in two (3.7%) patients was diagnosed. In another patient, tuberculosis in uterus and peritoneum was diagnosed, the effusion is regressed after antituberculosis therapy, so the cause of the effusion was accepted as tuberculosis. Other diagnoses were pleuropneumonia in 12, heart failure in 8, pulmonary embolism in 1, Churg-Strauss in 1 and drug-related in 1 patient. No specific diagnosis could been obtained in remained 27 patients and the diagnosis is accepted as "idiopathic pleuritis”.

Conclusion
In EPE patients and pleura biopsy specimen that had been obtained through VATS showed NSP, the final diagnosis is mostly a benign disease. Probability of a malign disease should not been disregarded. These patients should been followed-up closely.

Keywords: Nonspecific pleuritis, VATS, idiopathic pleuritis
Serious complications of endobronchial ultrasound-guided transbronchial needle aspiration: A multicenter, retrospective analyse

Benan Çağlayan¹, Aydin Yılmaz², Semra Bilaçeroğlu³, Sevda Şener Cömert¹, Nilgün Yılmaz Demirci², Banu Salepci¹
¹Dr.Lütfi Kırdar Kartal Training and Research Hospital, Department of Pulmonary Diseases, Istanbul, Turkey
²Atatürk Pulmonary Diseases and Thoracic Surgery Training and Research Hospital, Department of Pulmonary Diseases, Ankara, Turkey
³Dr.Suat Seren Pulmonary Diseases and Thoracic Surgery Training and Research Hospital, Department of Pulmonary Diseases, Izmir, Turkey

AIM: To evaluate serious complications related to endobronchial ultrasound guided transbronchial needle aspiration (EBUS-TBNA) and determine the complication rate.

METHODS: Three pulmonary diseases centers in which EBUS-TBNA was administered were included in this multicenter, retrospective study. A questionnaire with 15 questions including case series and characteristics of the complicated cases was sent to physicians performing procedure and patient’s records were examined to answer these questions. Clinical manifestations that requires clinical intervention and treatment except minimal bleeding that can be controlled with application of cold saline and/or adrenaline, temporary laryngospasm and bronchospasm, transient desaturation, fever terminated within 24 house was considered as serious. The rate of serious complications was calculated from the obtained data.

RESULTS: Study was conducted in three pulmonary diseases centers between October 2008-January 2014. 861 (27.6%) female, 2262 (72.4%) male totally 3123 cases with a mean age of 54.8±10.1 (min:16, max:83) was included. EBUS-TBNA was performed for staging in 943 (15.8%), diagnosis in 2109 (67.5%), diagnosis and staging in 521 (16.3%) cases. Of them 362 (11.6%) had paranchymal lesions adjacent to major airways, 2761 (88.4%) had hiler/mediastinal lymphadenopathy or lesion. EBUS-TBNA was performed from 6115 lymph node station (1.96/case) and 11753 times in 3123 cases (1.92/station). Malignancy was the final diagnosis in 44.3% of cases whereas benign disease in 55.7%. Totally 5 serious complications including fever lasting longer than 48 hours in 2 cases, infection of bronchogenic cyst in one, mediastinal abscess in one, pericarditis in one and pneumomediastinitis +ampyema in one case were recorded (0.16%). Only one of these five cases lung cancer metastasis was detected at EBUS-TBNA performed lymph node, benign diagnosis was obtained in all other cases. All patients were treated with broad-spectrum antibiotics. Four patients were hospitalized an average of 21.7±20.7 days. There were no exitus.

CONCLUSIONS: EBUS-TBNA is a safe method in general but particularly serious complications including infections can be seen. All precautions should be taken for complications during the process.

Keywords: endobronchial ultrasonography, complications, transbronchial needle aspiration
**SS042 [Respiratory Failure and Intensive Care]**

**İmportance of intensive care unit stuff and education on infection control**

Cüneyt Saltürk, Zuhal Karakurt, Semra Batı Kutlu, Ayşegül Oğuz, Derya Şeker, Huriye Berk Takır, Feyza Kargin, Özlem Moçin, Gökay Güngör, Nalan Adıgüzel
Surreyyapasa Chest Disease and Thoracic Surgery Training Hospital, Intensive Care Unit, Istanbul

**AIM:** In our country, infection control programs in intensive care unit (ICU) and results of surveillance studies are reported annually after 2008. In this study correlation between properties of ICU stuff and surveillance results of respiratory ICU infection were investigated.

**METHOD:** This retrospective observational cohort study was executed in respiratory ICU of a training hospital between 2010-2013. In the study period annual surveillance results were recorded as; ventilator associated pneumonia rate (VAPR), ventilator application rate (VAR), central catheter related infection rate (CCRI), catheter utilization rate (CUR). Exchange of physician, nurse and allied health personnel and infection educations were also enrolled.

**BULGULAR:** Both 2010-2011 and 2011-2013 period same specialist physician staff were present for 24 hours. Allied health stuff consisted of 0%, 42.9%, 57.1%, 15.4% while nurse were 56.2%, 28.2%, 35.1%, 42.9% in between 2010-2013. Ventilator associated pneumonia (VAP) measure package were applied in 2013. VAPR and VAR were 5.7/0.18; 16.2/0.24; 15.3/0.22; 4.5/0.29 while CCRI and CUR were 10.9/0.08; 7.2/0.07; 4.8/0.09; 5.3/0.14; 1.40/0.31 respectively in our center. With consecutive education and VAP measure package 2013 VAPR was reduced to %4.3 (VAR=0.29).

**CONCLUSION:** Presence of experienced and educated ICU stuff for 7/24 and application of infection prevention protocols not only decrease infection rate and mortality but also positive effect on cost.

**Keywords:** infection, intensive care unit, stuff education
Approach of Pulmonologists to Noninvasive Mechanical Ventilation Use in Acute Respiratory Failure in Turkey


1Department of Pulmonary Medicine, Baskent University, Istanbul, Turkey
2Department of Pulmonary Medicine, S.B. Dışkapı Yıldırım Beyazıt Eğitim ve Araştırma Hastanesi, Ankara, Turkey
3Department of Pulmonary Medicine, Süreyyapaşa Göğüs Hastalıkları Hastanesi, İstanbul, Turkey
4Department of Pulmonary Medicine, Fırat University, Elazig, Turkey
5Department of Pulmonary Medicine, İzmir Dr. Suat Seren Göğüs Hastalıkları ve Göğüs Cerrahisi Eğitim ve Araştırma Hastanesi, İzmir, Turkey
6Department of Pulmonary Medicine, Cukurova University, Adana, Turkey
7Department of Pulmonary Medicine, Duzce University, Duzce, Turkey
8Department of Pulmonary Medicine, Uludag University, Bursa, Turkey
9Department of Pulmonary Medicine, Ege University, İzmir, Turkey
10Department of Pulmonary Medicine, Kocatepe University, Afyon, Turkey
11Department of Pulmonary Medicine, Baskent University, Ankara, Turkey
12Department of Pulmonary Medicine, Baskent University, Konya, Turkey
13Department of Pulmonary Medicine, Erzurum Aziyiye Araştırma Hastanesi, Erzurum, Turkey
14Department of Pulmonary Medicine, Marmara University, İstanbul, Turkey
15Department of Pulmonary Medicine, Trabzon Ahi Evren Göğüs Kalp Damar Cerrahisi Hastanesi, Trabzon, Turkey

AIM: To define approach of pulmonologists in Turkey to noninvasive mechanical ventilation (NIV) use in acute respiratory failure, which is increasing world-wide.

METHODS: A 38-question survey, developed and tested by the authors, was distributed by e-mail to a total of 2205 pulmonologist in Turkey.

RESULTS: Response rate was 24%. Seventy percent of responders were practicing NIV in clinic. NIV use was found to be associated with responder's title, age, duration of medical license, type of the hospital and the region that it belongs, patient load, NIV experience during residency and its quantity, duration of NIV and intesive care unit (ICU) experience (Table 1, p=0.000). Based on sub-group analysis of 375 responders using NIV in ARF, median number of NIV patients followed-up per week was 3.5 (25th and 75th percentile: 2, 6). Most of the NIV users declared employment of wards (88.3%) or ICU's (87.5%) to follow-up patients. The first 3 common indications were chronic obstructive pulmonary disease (COPD) (98%), obesity hypoventilation syndrome (92%) and restrictive lung disease (88%). Sixty-three percent of NIV users were applying NIV in 80 to 100% of patients with COPD and success rate in COPD was reported as over 60% by 89% of users. Oronasal mask (median, 25th and 75th percentile: 90, 80, 100%) and home-type NIV ventilators(50, 10, 80%) were the most commonly utilised equipments.

CONCLUSION: NIV use in ARF by Turkish pulmonologists varies based on hospital type, region and especially experience of physician. Although consistent with guidelines, NIV can still be improved and increased.

Keywords: noninvasive mechanical ventilation, acute respiratory failure, survey

<table>
<thead>
<tr>
<th>Katılımcıların NIV Kullanımı ile İlişkili Karakteristik Özellikleri</th>
<th>NIV Kullanan (n=375)</th>
<th>NIV Kullanmayan (n=161)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ünvan: Akademisyen Uzman Asistan</td>
<td>118 (%32) 151 (%40) 106 (%28)</td>
<td>16 (%10) 142 (%88) 3 (%2)</td>
</tr>
<tr>
<td>Hastane tipi (en sık): Üniversite Genel Devlet Hast.</td>
<td>154 (%41) 70 (%19)</td>
<td>23 (%14) 78 (%48)</td>
</tr>
</tbody>
</table>
### Characteristics of Responders Related with Utilization of NIV

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>NIV User (n=375)</th>
<th>NIV Non-user (n=161)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title: Academics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specialist</td>
<td>118 (%32)</td>
<td>16 (%10)</td>
</tr>
<tr>
<td>Resident</td>
<td>151 (%40)</td>
<td>142 (%88)</td>
</tr>
<tr>
<td></td>
<td>106 (%28)</td>
<td>3 (%2)</td>
</tr>
<tr>
<td>Hospital type (most frequent)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>University</td>
<td>154 (%41)</td>
<td>23 (%14)</td>
</tr>
<tr>
<td>State Hospital</td>
<td>70 (%19)</td>
<td>78 (%48)</td>
</tr>
<tr>
<td>Regions (most frequent and nadir)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marmara</td>
<td>122 (%33)</td>
<td>59 (%37)</td>
</tr>
<tr>
<td>South-East</td>
<td>5 (%1)</td>
<td>13 (%8)</td>
</tr>
<tr>
<td>Black Sea</td>
<td>39 (%10)</td>
<td>4 (%3)</td>
</tr>
<tr>
<td>NIV Experience During Residency</td>
<td>275 (%73)</td>
<td>83 (%52)</td>
</tr>
<tr>
<td>ICU Experience</td>
<td>233 (%63)</td>
<td>57 (%36)</td>
</tr>
<tr>
<td>Age, yrs (median, 25th and 75th percentile)</td>
<td>37, 31,43</td>
<td>42, 35, 49</td>
</tr>
<tr>
<td>Duration of Medical Licence, yrs</td>
<td>10, 4, 16</td>
<td>15, 9, 21</td>
</tr>
<tr>
<td>Mean Daily Outpatient Number</td>
<td>30, 20, 45</td>
<td>45, 30, 50</td>
</tr>
<tr>
<td>Total Number of NIV Patients during Residency</td>
<td>100, 0, 250</td>
<td>10, 0, 120</td>
</tr>
<tr>
<td>Duration of NIV Experience, yrs</td>
<td>6, 3, 10</td>
<td>4, 0, 7</td>
</tr>
<tr>
<td>Duration of ICU Experience, mo's</td>
<td>3, 0, 24</td>
<td>0, 0, 3</td>
</tr>
</tbody>
</table>

*p<0.05 for all variables*
Emergency Department Admissions with Acute Respiratory Failure: Analysis of 24 Months

Fatma Tokgöz, Meltem Ağca, Begüm Arıtan, Tülay Yarkın
Sureyyapasa Chest Diseases and Thoracic Surgery Teaching and Research Hospital

The patients who were admitted to our emergency department (ED) diagnosed with respiratory acidosis in arterial blood gas (ABG), underwent noninvasive mechanical ventilation (NIV) and hospitalized following recovery, between May 2010 and 2012, were retrospectively evaluated in terms of their application characteristics.

In our evaluation, 245 directly intensive care unit (ICU) hospitalizations were excluded and 838 ED admissions were included. After hospitalization, 88 (10.5%) patients had been transferred from the clinics to the ICU.

Of all the 838 patients, 547 (65.3%) were male, the mean age was 67.7 ± 10.8. 155 patients were noticed to have been hospitalized 2.5 (2-8) times similarly.

The ABG values at presentation were: pH:7.305 ± 0.04, PaCO2:67.0 ± 10.3, PaO2:64.3 ± 33.0, HCO3 (std): 27.9 ± 4.7. The patients underwent ventilation with a peak inspiratory pressure of 20.7 ± 2.1 cmH₂O, and expiratory 5.1 ± 0.4 cmH₂O. 1.5 ± 0.6 hours later, the control ABG values were pH: 7.356 ± 0.049, PaCO2: 58.1 ± 10.4, PaO2: 67.3 ± 32.1, HCO3 (std): 28.3 ± 4.7.

The applications to the ED were most common between 20-21 and 10-11 (7.2-6.9%), the rarest between 5-6 hours (1%), the most common time zones were 8-12. The applications were most common in March and January (13.2-12.1%), rarest in July (3.6%) and winter-spring (32.1% - 29.5%) was recorded as the highest seasonal rate.

One-way ANOVA analysis of the hours, months and seasons; age, gender, ABG values, ICU referral did not significantly differ. For repeatedly hospitalised patients, the hour of admissions were found to be significant (p = 0.043).

As a result, our 2-year analysis showed that admissions to ED requiring NIV and hospitalization were at highest rate in the early hours of the day and during winter whereas repeatedly hospitalised patients’ application hours did change significantly.

Keywords: arterial blood gas, noninvasive mechanical ventilation, respiratory failure

Figure 1: Admission hours according to the months

K: kadın, E: erkek
<table>
<thead>
<tr>
<th>Month</th>
<th>n (%)</th>
<th>F/M</th>
<th>Age</th>
<th>Initial pH</th>
<th>Initial PaCO2</th>
<th>Control pH</th>
<th>Control PaCO2</th>
<th>WBC</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>101 (12,1)</td>
<td>34/67</td>
<td>67,0±10,2</td>
<td>7,313±0,05</td>
<td>66,3±9,3</td>
<td>7,357±0,04</td>
<td>57,5±9,6</td>
<td>11,1±5,1</td>
</tr>
<tr>
<td>February</td>
<td>90 (10,7)</td>
<td>31/59</td>
<td>69,7±11,3</td>
<td>7,297±0,05</td>
<td>67,2±9,0</td>
<td>7,357±0,04</td>
<td>57,8±9,6</td>
<td>11,3±5,2</td>
</tr>
<tr>
<td>March</td>
<td>111 (13,2)</td>
<td>32/79</td>
<td>67,6±12,0</td>
<td>7,306±0,04</td>
<td>66,5±8,8</td>
<td>7,351±0,03</td>
<td>58,4±8,2</td>
<td>10,5±4,3</td>
</tr>
<tr>
<td>April</td>
<td>88 (10,5)</td>
<td>37/51</td>
<td>68,1±10,9</td>
<td>7,289±0,05</td>
<td>67,7±12,5</td>
<td>7,346±0,04</td>
<td>57,7±9,2</td>
<td>10,8±4,9</td>
</tr>
<tr>
<td>May</td>
<td>48 (5,7)</td>
<td>16/32</td>
<td>68,1±11,9</td>
<td>7,307±0,04</td>
<td>67,7±30,3</td>
<td>7,363±0,03</td>
<td>57,8±13,5</td>
<td>10,8±4,7</td>
</tr>
<tr>
<td>June</td>
<td>37 (4,4)</td>
<td>13/24</td>
<td>68,0±10,1</td>
<td>7,306±0,04</td>
<td>68,3±9,5</td>
<td>7,379±0,04</td>
<td>57,9±9,6</td>
<td>11,0±5,1</td>
</tr>
<tr>
<td>July</td>
<td>30 (3,69)</td>
<td>9/21</td>
<td>67,4±10,2</td>
<td>7,323±0,06</td>
<td>70,0±10,4</td>
<td>7,357±0,04</td>
<td>59,2±13,1</td>
<td>8,6±3,1</td>
</tr>
<tr>
<td>August</td>
<td>37 (4,4)</td>
<td>10/27</td>
<td>67,5±10,0</td>
<td>7,306±0,04</td>
<td>66,8±8,8</td>
<td>7,355±0,11</td>
<td>61,8±8,7</td>
<td>9,8±4,1</td>
</tr>
<tr>
<td>September</td>
<td>55 (6,6)</td>
<td>23/32</td>
<td>68,4±10,6</td>
<td>7,304±0,03</td>
<td>68,9±15,5</td>
<td>7,360±0,04</td>
<td>60,5±14,1</td>
<td>9,8±3,9</td>
</tr>
<tr>
<td>October</td>
<td>67 (8,0)</td>
<td>25/42</td>
<td>66,9±10,4</td>
<td>7,316±0,05</td>
<td>67,7±10,7</td>
<td>7,353±0,05</td>
<td>57,9±10,3</td>
<td>10,1±2,9</td>
</tr>
<tr>
<td>November</td>
<td>96 (11,59)</td>
<td>35/61</td>
<td>67,8±10,7</td>
<td>7,303±0,05</td>
<td>66,2±9,5</td>
<td>7,350±0,04</td>
<td>58,7±11,1</td>
<td>10,5±4,5</td>
</tr>
<tr>
<td>December</td>
<td>78 (9,3)</td>
<td>26/52</td>
<td>65,9±10,3</td>
<td>7,306±0,04</td>
<td>64,9±8,4</td>
<td>7,360±0,04</td>
<td>55,7±10,2</td>
<td>10,9±3,9</td>
</tr>
</tbody>
</table>

F: female, M: male, WBC: white blood cells in complete blood count
Is Restricted Transfusion Approach in the ICU Appropriate also for COPD Exacerbations?

Begüm Ergan, Recai Ergün
Diskapi Yıldırım Beyazıt Education and Research Hospital

INTRODUCTION: Recent data show that restricted blood transfusion may be lifesaving in all critical care patients except for patients with ischemic heart disease. In this study we wanted to evaluate the relationship between anemia and in-hospital mortality in patients with severe respiratory failure because of COPD exacerbations.

METHODS: We included COPD exacerbation patients (n=73) admitted to ICU due to acute respiratory failure. Patients who have active bleeding or possible bone marrow suppression due to a disease or therapy were excluded. Demographic, clinical, laboratory values and follow-up data of each patient is recorded. Anemia is defined as a hemoglobin level of less 12g/dL in females and 13g/dL for males.

RESULTS: Median age of patients was 71.0 (62.0-76.5) and 75.7% were male. Admission median APACHE 2 score was 26.0 (18.5-32.5), median pH, PCO2 and PO2 levels were 7.25 (7.18-7.31); 72.1 (61.3-83.9)mmHg and 53.0 (42.8-65.3)mmHg respectively. First ventilatory support was noninvasive ventilation in 83.6% of patients. Median hemoglobin level was 12.5 (11.1-14.2) g/dL and 40 patients were found as anemic. In-hospital mortality in anemic patients were 60.0% whereas it was 21.2% in patients without anemia (p<0.01). Multivariate logistic regression analysis showed anemia as an independent factor for mortality (Odd’s ratio [95% CI] 10.4 [2.8-38.8]; p<0.01).

CONCLUSION: In this study it was shown that anemia is related with higher in-hospital mortality in severe COPD exacerbations presenting with acute respiratory failure. Anemia may be an indicator for more severe chronic inflammatory process. But it should also be kept in mind that restricted transfusion strategy might not be appropriate approach in these patients.

Keywords: COPD, exacerbation, anemia
Reliability of ultrasonographic evaluation of distensibility index of inferior vena cava on fluid status of the mechanically ventilated

Aslıhan Yalçın, Hüseyin Arıkan, Pinar Güven, Şehnaz Olgun, Emel Eryüksel, Sait Karakurt
University of Marmara, Faculty of Medicine, Department of Pulmonary and Critical Care Medicine

INTRODUCTION: Distensibility index of inferior vena cava (dIVC) on bedside ultrasonography has been used increasingly to estimate volume status of mechanically ventilated (MV) patients.

AIM: To determine reliability of dIVC on estimating volume status of the MV.

METHOD: Supine IVC diameter on end-inspiration and end-expiration was measured, dIVC was calculated using the formula \[ \frac{(\text{max diameter} - \text{min diameter})}{\text{min diameter}} \times 100\% \]. Selected patients were on sinus rhythm, normotensive (mean arterial pressure: 82±22 mmHg) and PEEP: 5 mmHg. Serum pro-BNP levels were recorded concurrently.

RESULTS: 40 patients (15 women, 25 men, mean age 60±19.7) with diagnosis of 9 septic shock, and of 31 other than septic shock underwent ultrasonographic evaluation. Results are summarized in Table I. Correlation between serum proBNP levels and dIVC was found to be statistically significant (p: 0.035) through all of, moreover on septic shock patients (p: 0.022)

CONCLUSION: Distensibility index of vena cava is as reliable as proBNP in assessment of volume status of mechanically ventilated patients.

Keywords: Inferior vena cava, distensibility index, volume status

Table I

<table>
<thead>
<tr>
<th></th>
<th>proBNP</th>
<th>eksIVC(mm)</th>
<th>InsIVC(mm)</th>
<th>dIVC(%)</th>
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</thead>
<tbody>
<tr>
<td>Mean</td>
<td>10193,3±13122</td>
<td>1,3±0,64</td>
<td>1,9±0,58</td>
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<tr>
<td>Median</td>
<td>3860,5</td>
<td>1,22</td>
<td>1,94</td>
<td>55,5</td>
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<tr>
<td>%25-75 CI</td>
<td>571-17216</td>
<td>0,93-1,7</td>
<td>1,56-2,2</td>
<td>55,5</td>
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</table>

*eksIVC: Diameter of IVC on expirium*  *InsIVC: Diameter of IVC on inspirium*
SS047 [Lung Transplantation]

Analysis of Lung Transplantation Cases at Turkiye Yüksek Ihtisas Training and Research Hospital

Alkın Yazıcıoğlu¹, Erdal Yekeler¹, İbrahim Onur Alıcı¹, Sema Turan², Ülkü Yazıcı³, Ertan Aydın³, Nurettin Karaoğlanoğlu¹
¹Türkiye Yüksek Ihtisas Training and Research Hospital, Thoracic Surgery and Lung Transplantation Center, Ankara
²Türkiye Yüksek Ihtisas Training and Research Hospital, Department of Anesthesiology, Ankara
³Ataturk Chest Diseases and Thoracic Surgery Training and Research Hospital, Department of Thoracic Surgery, Ankara

INTRODUCTION: Lung transplantation (LuTx), treatment option for end stage lung diseases, has successfully been performing in our country.

METHOD: We performed 5 LuTx cases between March 2013 - December 2013.

RESULTS: Of these 5 patients; 4 were male (80%), one was female (20%), with the mean age of 49.4 (30-62). Indications of LuTx were COPD (n=3, 60%) and Pulmonary Langerhans Cell Histiocytosis (PLCH) (n=2, 40%). Pre-operative mean pulmonary arterial pressure were determined as 52.4 mmHg (40-90). Clamshell incision were performed to all cases with double LuTx (n=4, 80%) and single LuTx (n=1, 20%). Mean ischemic period for the first lung was calculated as 266 min (211-330); whereas, for the second lung it was 394 min (360-440). LuTx were performed with the help of central ECMO in 3 cases. Electrolyte instability, arrhythmia, CO2 retention, CMV reactivation, Ascinetobacter pleurit, Aspergillus tracheobronchitis, AFOP (Acute Fibrinous and Organizing Pneumonia), and gastrointestinal problems were the most common problems during intensive care period. Mean duration of hospitalization in the intensive care was calculated as 20.5 days (15-28); mean hospitalization duration was 42.5 days (35-49). One patient died during intra-operative period and mortality was mentioned as 20%.

DISCUSSION: The most common indication for LuTx is COPD, followed by idiopathic pulmonary fibrosis. In order to obtain successful results; massive endeavor, extreme devotion, experience, knowledge have to be asses by team. Carefully patient selection with using correct surgical techniques and painstaking, backbreaking but meticulously patient follow-up after the operations are the goals for success.

Keywords: COPD, Cold ischemia, Lung Transplantation

Akciğer nakli olgularının özellikleri

<table>
<thead>
<tr>
<th>Ad Soyad</th>
<th>Patoloji</th>
<th>Ekstübasyon</th>
<th>Yoğun bakım</th>
<th>Hospitalizasyon</th>
<th>Post-op komplikasyonlar</th>
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<tr>
<td>MK</td>
<td>KOAH-</td>
<td>20 saat</td>
<td>15 gün</td>
<td>49</td>
<td>Aritmi + elektrolit bozuklüğü + gastrointestinal problemler + CMV reaktivasyonu + organize pnömoni</td>
</tr>
<tr>
<td></td>
<td>Amfizem</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MY</td>
<td>PLCH</td>
<td>38 saat</td>
<td>15 gün</td>
<td>41</td>
<td>CMV reaktivasyonu</td>
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<tr>
<td>MS</td>
<td>KOAH-</td>
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<td>ex</td>
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<tr>
<td>AA</td>
<td>KOAH-</td>
<td>39 saat</td>
<td>28 gün</td>
<td>35</td>
<td>Revizyon + aritmi + 4.gün arrest,resültasyon + asinetobaker plöriti + CO2 retansiyonu + Aspergillus trakeobronşiti + Tedavi uyumsuzluğu</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SY</td>
<td>PLCH</td>
<td>22 gün</td>
<td>24 gün</td>
<td>45</td>
<td>AFOP + ABY + elektrolit bozuklüğü, hipernatremi + sol hemitoraksta hematom + steroid myopatisi</td>
</tr>
</tbody>
</table>


Short term effect of lung transplantation on quality of life

Nur Dilek Bakan¹, Nuran Sağlam², Adalet Demir³, Songül Büyükkale³, Özgür İşgörücü³, Adnan Sayar³
¹Yedikule Teaching Hospital for Chest Diseases and Thoracic Surgery, Chest Diseases, Istanbul
²Yedikule Teaching Hospital for Chest Diseases and Thoracic Surgery, Transplant coordinator, Istanbul
³Yedikule Teaching Hospital for Chest Diseases and Thoracic Surgery, Thoracic Surgery, Istanbul

Background and

OBJECTIVE: Improving health-related quality of life is an important goal of lung transplantation. To assess the change in health-related quality of life (HRQL) among lung transplant patients before and after transplantation.

METHOD: Lung transplant patients from Yedikule transplant center participated first as transplant candidates, and later as recipients in the study. Patients completed the SF-36 questionnaire before transplantation and 3 months later. The pre- and posttransplant results of SF-36, pulmonary function tests, and six-minute walk tests were compared.

RESULTS: Ten patients (4 male, 6 female) with mean age 35.7 (19-51) were included to the study. There was a significant improvement in FVC (p=0.007), FEV1 (p=0.016), six minute walk test (p=0.012) and the SF-36 score (p=0.009) between the pretransplant period and posttransplant third month.

CONCLUSION: Lung transplantation is associated with dramatic improvements in HRQL, particularly in measures of functioning.

Keywords: lung transplantation, quality of life, pulmonary function test
INTRODUCTION: In our country, data were limited about using ECMO bridge to lung transplantation recently beginning. In this study, we presented 4 patients in which we used ECMO bridge to lung transplantation.

METHOD: File data of 4 patients used ECMO bridge to lung transplantation between the dates of January 1st and December 31st of 2013 were retrospectively evaluated. Demographics, pre and post ECMO data were reviewed.

RESULTS: Patients ages between 26 and 52, and two were females. Diagnoses were interstitial pulmonary fibrosis in 3 and idiopathic pulmonary artery hypertension in 1. Data of patients were given at table 1 and 2. Post ECMO, 3 patients were managed with nasal oxygen and oral feeding. One patient was die before lung transplantation because of absence of appropriate donor, 2 patients underwent successful lung transplantation (one right and one left single lung transplantation), and 1 patient was died after bilateral lung transplantation.

CONCLUSION: ECMO bridge to lung transplantation can be life saving in patients with end stage lung disease when hipercapnic and/or hipoxic respiratory insufficiency developed.

Keywords: lung transplantation, ECMO

<table>
<thead>
<tr>
<th>Patient number</th>
<th>Pre ECMO MV support</th>
<th>ECMO support</th>
<th>Post ECMO MV support</th>
<th>Lung transplant waiting time (day)</th>
<th>Result</th>
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<tr>
<td>1</td>
<td>intubated</td>
<td>VA</td>
<td>nasal O2</td>
<td>12</td>
<td>Left single lung</td>
</tr>
<tr>
<td>2</td>
<td>NIMV</td>
<td>VV</td>
<td>nasal O2</td>
<td>1</td>
<td>Right single lung</td>
</tr>
<tr>
<td>3</td>
<td>intubated</td>
<td>VV</td>
<td>intubated</td>
<td>3</td>
<td>Double Lung</td>
</tr>
<tr>
<td>4</td>
<td>NIMV</td>
<td>VV</td>
<td>nasal O2</td>
<td>19</td>
<td>transplantation did not</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Patient number</th>
<th>Diagnosis</th>
<th>Age</th>
<th>Gender</th>
<th>pH</th>
<th>pO2/FiO2</th>
<th>pCO2</th>
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<td>IPF</td>
<td>39</td>
<td>male</td>
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<td>52</td>
<td>60</td>
</tr>
<tr>
<td>2</td>
<td>IPF</td>
<td>52</td>
<td>male</td>
<td>7,46</td>
<td>43</td>
<td>43</td>
</tr>
<tr>
<td>3</td>
<td>IPF</td>
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<td>7,22</td>
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<td>109</td>
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<tr>
<td>4</td>
<td>IPAH</td>
<td>30</td>
<td>female</td>
<td>7,46</td>
<td>35</td>
<td>18</td>
</tr>
</tbody>
</table>
OBJECTIVE: This study aimed to determine the indications, listing and decline rates, and reasons for decline of lung transplantation among the referred patients to our transplant center.

METHODS: The records of 239 patients referred to the transplant center of Yedikule Teaching Hospital for Chest Diseases between August 2011 and December 2013 were retrospectively reviewed.

RESULTS: Data of 223 patients were included. One hundred twenty three (55.2%) of the patients were eligible for lung transplantation. Fifty-four (43.9%) of the 123 patients refused lung transplantation. Hundred patients were not eligible for lung transplantation. Thirty-seven of the denied patients (37%) were referred too early. Twenty of the patients (20%) had contraindicated medical conditions for lung transplant. Eleven of the patients (11%) were referred too late to lung transplantation. Eight patients (8%) had more than one contraindication to lung transplantation. Eight patients (8%) had psychosocial incompatibility. Seven patients (7%) had no indication for lung transplantation. Six patients (6%) were refused due to advanced age. Two patients (2%) were active smoker. One patient (1%) was denied because of obesity. Nineteen of the 69 lung transplant candidates underwent 20 lung transplantation. Thirteen patients died during the pretransplant work-up, two patients died on the waiting list. Fourteen patients are on the waiting list and 21 patients’ work-up is in progress, currently.

CONCLUSION: Lung transplantation is a standard treatment option for end stage lung diseases other than malignancy. The increasing numbers in our country should raise the awareness for indications and referral criteria of lung transplantation.

Keywords: lung transplantation, indications, referral criteria
INTRODUCTION:
Congenital malformations are the most common cause of perinatal death. Ultrasonography is very successful on prenatal diagnosis but also fetal autopsy is very helpful for confirmation of prenatal diagnosis and find out associated anomalies. In this study 38 congenital pulmonary pathology is reviewed among 542 fetal autopsy revealed to our institution between 2006 and 2013.

RESULTS:
Among 400 cases; 21 of them were male, 17 of them were female and 2 were not specified. There are 10 pulmonary hypoplasia, 8 amnion fluid aspiration, 4 immature lung, 3 hipolobulated lung; 2 each perinatal inspiration, CPAM, CMV, actinomices infection, hyaline membrane disease and one each meconium aspiration, pulmonary hypertension, Congenital Pulmonary Lymphangiectasia (CPL), bronchopneumonia, alveolar hemorrhage.

DISCUSSION:
Congenital pulmonary hypoplasia (CPH) is a rare fatal disease with the mortality of 71-95%. CPH is the most common Congenital pulmonary pathology (CPP) in our study.

CPAM is a non-hereditary, developmental hamartomatous congenital anomaly with unknown etiology. In our study 5% of pulmonary pathologies is CPAM which constitute 3.7/1000 of fetal autopsies.

CPL is a very rare pathology characterized by bilaterally diffuse, microcystic dilatation of lymphatic vessels in the lung. The incidence of the CPL is unknown, 30 cases from Japan, totaly 130 cases reported in the literature. In our series there is only 1 case of CPL.

CONCLUSION:
CPP is a group of congenital anomaly with a high morbidity and mortality rate. Because of this prenatal diagnose of the CPP and associated anomalies is very important for planning the pregnancy and postnatal treatment.

Keywords: Congenital pulmonary anomaly, Congenital pulmonary adenomatoid malformation, Congenital pulmonary lymphangiectasia, Fetal autopsy
1a: CPAM tip 2 (H&E, x5) 1b: CPAM tip 1 (H&E, x5)

1a: CPAM type 2 (H&E, x5) 1b: CPAM type 1 (H&E, x5)

2a: Konjenital pulmoner lenfanjektazi (H&E, x10) 2b: CD31 pozitif dilate lenfatikler (x10)

2a: Congenital Pulmonary Lymphangiectasia (H&E, x10) 2b: CD31 expression in the dilated lymphatic vessels (x10)
Clinicopathological Features Of Our Cases With Sarcomatous Components in Small Biopsies Of The Lung

Funda Demirağ, Yeliz Dadalı, Ülkü Yılmaz, Zafer Aktaş, Nilgün Yılmaz Demirci
Atatürk Chest Diseases and Chest Surgery Education and Research Hospital

AIM: Sarcomatosus pulmonary tumors are heterogenic group tumors that consist of sarcomatous carcinoma, primary pulmonary sarcoma, intrapulmonary malignant mesothelioma and metastatic sarcomatoid tumor. Nonoperable cases are followed up with small biopsy diagnosis. Therefore, we aimed to show how clinicopathological approach should be by presenting histopathological, immunohistochemical and clinical findings of cases that contain sarcomatous component in small biopsy materials.

MATERIAL-METHODS: Between January 2010 and January 2014, 35 cases that contain sarcomatous areas in broncoscopic biopsy, transthoracic biopsy and EBUS materials are analyzed. Clinical information and slides are examined again and histopathological findings are recorded. Biopsies taken from masses that have localized mediasten are not included in the research.

RESULTS: 35 cases consist of 10 women and 25 men whose ages range between 35 and 80. Epithelial components were observed in 10 cases. Cases that cannot be categorized into subtypes are diagnosed as poorly differentiated nonsmall cell carcinoma with spindle and/or giant cell component, with the help of p63 and TTF-1 immunohistochemistry that is used in the latest small biopsy classification. The cases that have obvious pankeratin, EMA and CEA positivity but that do not contain epithelial components are reported as sarcomatous carcinoma. We detected primary pulmonary mesenchimal tumours in 9 cases, malignant mesothelioma in 1 case and metastatic tumors in 6 cases.

DISCUSSION: First approach to small biopsy materials that contain sarcomatous components should be ruling the metastasis probability out by using clinical and radiological findings. In the second step, biopsy materials should be searched for epithelial components. Then, a conclusion should be reached with the help of the markers like pankeratin, EMA, MOC31, CEA and keratin 7, which are expected to be positive in carcinomas.

Keywords: sarcomatoid carcinoma, lung, biopsy
An important clue in the diagnosis of sarcoidosis: Hamazaki-Wesenberg bodies

Betül Ünal¹, İrem Hicran Özbudak¹, Havva Serap Toru¹, Ömer Özbudak²
¹Akdeniz University, School of Medicine, Department of Pathology, Antalya
²Akdeniz University, School of Medicine, Department of Pulmonary Medicine, Antalya

INTRODUCTION
Hamazaki – Wesenberg (HW) bodies were defined in 1938. Tudway examined 359 mesenteric lymph nodes, and HW bodies were found in 22.8% of these. They have been identified in the sinus of the lymph nodes in many conditions including sarcoidosis, appendicitis, cirrhosis, colon carcinoma and lymphoid tumors. In microscopic examination, diagnostic distinctions from the fungus is so important to determine the treatment regimen.

CASE
A mediastinal lymph node biopsy was performed from a 41 years old female. Granulomatous inflammation with areas of hyalinazation was observed. Granulomas had small concentric nature. HW bodies were observed under the capsule. Specific microorganisms were not observed in EZN, PAS and GMS stains. By these findings, the patient was diagnosed as Sarcoidosis.

DISCUSSION
Asteroid bodies, crystalline inclusions, Schaumann bodies, cholesterol crystals and inclusions such as HW bodies can be found in granulomatous lesions. However, these findings are nonspecific and are not pathognomonic. HW bodies are PAS -D-positive inclusions. Sometimes they are found in the cytoplasm of a giant cells or extracellularly in sinusoids of lymph nodes with or without granulomatous disease. In H&E stains, HW bodies are yellow-brown pigments with few microns diameter and in oval-spindle shape. In silver stains such as GMS, they can give the impression of fungal infection because of the similar appearance of budding yeast. HW bodies are also reactive with Masson-Fontana and acid-fast stains. In conclusion, histochmical stains have important role in the approach to diagnosis and to recognize this entity may prevent patients from receiving unnecessary antifungal therapy.

Keywords: Hamazaki – Wesenberg bodies, sarcoidosis, granulomatous diseases
SS054[Lung Pathology]

The Documentation of patients diagnosed lung cancer in our hospital's pathology laboratory in 2013

Sedat Altın, Nur Ürer, Neslihan Akanıl, Naciye Arda, Nurcan Ünver
Yedikule Chest Diseases and Chest Surgery Education and Research Hospital

AIM: To evaluate patients who diagnosed with lung cancer according to pathologic diagnosis in the training and education hospital with large volume in 2013

MATERIAL-METHOD: Assessment was done by using pathology laboratory records and electronic data.

FINDINGS: From 38,120 materials which was sent to our pathology laboratory 3826 (10 %) materials were diagnosed as lung cancer. These 3826 materials belonged to 2233 patients. The number of materials per patients was found as 1,7. 85 % of patients were male, and average age was 57,3 + 9,4 years.

Our patient's histologic types were 325 (14,6 %) small cell carcinoma, 772 (34,5 %) squamous cell carcinoma, 616 (27,6 %) adenocarcinoma, 357 (16 %) metastatic, 7 large cell carcinoma, 156 (7%) undefined cell type. Histologic type differences were 32 (0,8 %). Final report was done according to biopsy and immunohistochemical stains.

712 (31,9 %) of our patients were inpatient investigated.

CONCLUSION: To diagnose lung cancer all diagnostic methods are being used in our hospital's pathology laboratory, also by using immunohistochemical methods intensively results are given rapidly.

Keywords: lung cancer, pathologic diagnosis, histologic type
Complementary alternative therapies in the lung cancer patients and the causes of application to them

Meral Acar¹, Ömer Özbudak¹, Hülya Dirol¹, Hakan Şat Bozcuk²
¹AKDENİZ UNIVERSITY MEDICAL FACULTY CHEST MEDICINE DEPARTMENT
²AKDENİZ UNIVERSITY MEDICAL FACULTY MEDICAL ONCOLOGY DEPARTMENT

Complementary alternative therapy (therapy that is suggested to make treatment but this effect has not been prooven by scientific methods) methods are applied by many cancer patient with increasing frequency. This study is done for the investigation of methods of complementary alternative therapies (CAT) that the lung cancer patients applied for and also for the factors affecting their behaviour. We arragenged face to face interview with these patients and we used Complematry Therapy Questionire form, Hospital Anxiety Depression Scale and EORTC QLQ - LC13 Questionaire. 24 women, 141 men, total 155 patients, with the mean age 62.65 was included in the study. Totally 61(36.96) pateints, 10 women, 51 men were at least using one CAT. There was no significant difference between CAT user group and non CAT user group in respect to age, sex, education, income level, places that they were living in, pathological diagnosis and stage of disease. It was found that many CAT using patients not inform their doctors about CAT usage. Most prefered CAT methods were plants, invocation and religious practices. It was found that CAT usage were higher in anxious patients than nonanxious patients. Contact to psychiatrist and antidepressant usage were significantly higher in CAT user group than in non CAT user group. AS a result, CAT usage were found to be correlated with anxiety rather than with socioeconomic, socioculturel and medical features.

Keywords: Anxiety, Complementary Alternative Therapy, Lung Cancer
SS056 [Pulmonary and Pleural Malignancies]

Investigation of survivin gene expression in Non Small Cell Lung Cancer

Sadettin Kamat¹, Engin Aynacı², Yasemin Müşteri Oltulu³, Pınar Yıldız¹, Ender Coşkunpinar³, Neslihan Akanıl¹, Onur Kum¹, İlhan Yaylım³
¹Yedikule Chest Diseases and Thoracic Surgery Training Research Hospital, Istanbul, Turkey
²Medipol University, Faculty of Medicine, Department of Chest Diseases, Istanbul, Turkey
³Istanbul University, DETAE, Department of Molecular Medicine, Istanbul, Turkey

Lung cancer is the second most common cancer type diagnosed and first in cancer related deaths among all cancers worldwide. The survivin gene is located on human chromosome 17q25 which is composed of 142 amino acids. Survivin is one of the first reported inhibitors of apoptosis proteins (IAPs), which is an important family of proteins that regulate apoptosis. Survivin gene expression aberration providing a sensitivity for the development of lung cancer. A common polymorphism on the survivin gene promoter (-31G/C) has been shown to influence the survivin expression and the risk of cancer development. The genetic variant -31G/C on the survivin promoter region has been identified to be associated with overexpression of survivin at both protein and mRNA levels in cancer cells. The overexpression of survivin was found to be associated with disease development, recurrence and prognosis in various malignancies, including cancers. In this study the demonstration of the prognosis related associations between surviving gene expression and non small cell lung cancer (NSCLC) was aimed. There were 27 surgically operated NSCLC patients included to the study. Immunohistochemical staining technique was used as the method. According to the survivin gene expression analysis no statistically significant difference were found.

**Keywords:** Non small cell lung cancer, survivin, gene expression, genetic, biomarker

### Nucleolar survivin expression

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<th>Stage</th>
<th>Stage</th>
<th>Stage</th>
<th>Stage</th>
<th>Stage</th>
<th>Stage</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative (%)</td>
<td>1(9.1)</td>
<td>5 (45.5)</td>
<td>2 (18.2)</td>
<td>1 (9.1)</td>
<td>1 (9.1)</td>
<td>1 (9.1)</td>
<td>0.532</td>
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<tr>
<td>Positive (%)</td>
<td>1(6.3)</td>
<td>5 (31.3)</td>
<td>2 (12.5)</td>
<td>2 (12.5)</td>
<td>6 (37.5)</td>
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</table>

### Cytoplasmic survivin expression

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<th>Stage</th>
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<th>Stage</th>
<th>p value</th>
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</thead>
<tbody>
<tr>
<td>Negative (%)</td>
<td>0 (0)</td>
<td>3 (33.3)</td>
<td>2 (22.2)</td>
<td>2 (22.2)</td>
<td>1 (11.1)</td>
<td>1 (11.1)</td>
<td>0.288</td>
</tr>
<tr>
<td>Positive (%)</td>
<td>2 (11.1)</td>
<td>7 (38.9)</td>
<td>2 (11.1)</td>
<td>1 (5.6)</td>
<td>6 (33.3)</td>
<td>0 (0)</td>
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</tbody>
</table>
INTRODUCTION:
Lung carcinoid tumors have low malignity potential and are rarely encountered. They represent
approximately 3% of lung cancers. Approximately 25% of all carcinoid tumors are located in the
lung. Treatment consists of surgical resection. In this study we examined cases undergoing surgery
due to carcinoid tumor.

METHODS:
The records of 36 patients operated on due to carcinoid tumor between 1995 and were
examined retrospectively. Twenty-three (64%) patients were female and 13 (36%) male (Table 1). Mean age
was 45,9.

RESULTS:
Mean duration of monitoring was 98 months (4-213 months). Three patients were administered left
pneumonectomy, two left upper lobectomy, six left lower lobectomy, eight right lower bilobectomy,
five right upper bilobectomy and two right main bronchus bronchotomy with mass excision (Table
2). In terms of pathological cell type, typical carcinoid developed in 29 patients and atypical
carcinoid in seven (Table 2). Two operated cases had previously undergone surgery in an external
center and presented to our clinic with recurrence. No recurrence was observed during follow-up in
any case, and none died from accompanying disease by the 10 year.

CONCLUSION:
Although lung carcinoid tumors have low malignity potential, they are capable of metastasizing and
recurring. No recurrence was determined in our series, apart from cases that referred to us for
reoperation from external centers. We therefore think that recurrence will be rare in patients
receiving sufficient surgery in the first operation.

Keywords: Lung, Carcinoid, Tumor

Table 1

<table>
<thead>
<tr>
<th>Gender</th>
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<tr>
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<tr>
<td>Male</td>
<td>13</td>
<td>36</td>
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Table 2

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<tr>
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<td>8</td>
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<tr>
<td>Left upper lobectomy</td>
<td>2</td>
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<tr>
<td>Left lower lobectomy</td>
<td>6</td>
<td>17</td>
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<tr>
<td>Right lower bilobectomy</td>
<td>8</td>
<td>22</td>
</tr>
<tr>
<td>Right upper lobectomy</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>Right middle lobectomy</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>Right lower lobectomy</td>
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<td>14</td>
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<td>Right main bronchus bronchotomy</td>
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Assessment of Thoughts of Doctors, Lung Cancer Patient's Relatives and Population About Saying the Diagnosis of Lung Cancer

Önder Utku Datlı, Pınar Çelik, Yavuz Havlucu, Tuğba Göktalay, Ayşin Şakar Coşkun, Arzu Yorgancıoğlu
Celal Bayar University Faculty of Medicine, Department of Chest Disease, Manisa, Turkey

In this study, we aimed to investigate the thought of doctors who done the diagnosis, doctors who arrange the treatment, first degree relatives of patients with lung cancer, and population as a control. 310 subjects (100 doctors, 110 first degree relatives of patients, and 100 subjects as a control) were included to the study. The mean age was 39.77±11.44 years and there was 170 females. 46% of doctors were giving cancer treatment. 84.5% of subjects were answered the question (Do you want to know the diagnosis of lung cancer if you are lung cancer?) as "yes" and the answers were not different between groups (p>0.05). This ratio was 89.1% in doctors who arrange lung cancer treatment whereas it was 57.4% in doctors who do not arrange cancer treatment. The percentage of learning of diagnosis of lung cancer throughout the time in doctors, population, and patient's relatives were 19%, 34%, and 59% respectively (p<0.05). To be informed about survival time was more important in doctors who arrange lung cancer treatment (77%) than doctors who did not (56%) (p<0.05). Treatment modality and adverse effects of treatment was important for all groups (90.8%) (p>0.05). Information about quality of life was more important in relatives of patients (87%) than population (65%) and doctors (63%) (p<0.05). Quality of life was more important for doctors who arrange lung cancer treatment (76.7%) than doctors who did not (48.8%) (p<0.05).

According to this study we think that doctors should say the diagnosis of lung cancer in the form of they understand, inform the patients and relatives about treatment, adverse effects of treatment, and quality of life and this can increase patient trust to doctor and compliance of patients to the treatment.

**Keywords:** Lung cancer, patient's relatives, population
SS059 [Pulmonary and Pleural Malignancies]

The Progress of Our Lung Cancer Patients

Sedat Altın, Cengiz Özdemir, Murat Kıyık, Yusuf Başer, Serap Hastürk, Celalettin Kocatürk, Adnan Sayar, Neslihan Akanil
Yedikule Chest Diseases and Chest Surgery Education and Research Hospital

AIM: To compare the condition of lung cancer patients diagnosed in our hospital or referred to our hospital with country data in 2013

Material &
METHOD: By using our electronic data and results of pathology laboratuary, our data were compared with information of 2012 taken from SGK.

FINDINGS: According to the SGK data in 2012, while 49,264 patients with lung cancer were treated, because of yearly increase is approximately 3 %, expectation of 2013 was calculated as 50,742. Nearly 30,000 cases were the ones diagnosed newly. In 2013, 9009 patients who had ICD C34 code were examined 41737 times outpatient clinic (per patient 4,6 entry). 2354 of these were hospitalized 2879 times and treated. Surgical resections were applied to 403 patients. 9014 chemotherapy sessions were performed to 1612 patients. Also interventional bronchoscopy was inserted to 630 cases.
It is reported that 37,3 % of our lung cancer patients were squamous cell carcinoma, 34,4 % adenocarcinoma, 16,5 % small cell carcinoma.

CONCLUSION: According to SGK data, 8 % of lung cancer were diagnosed, 12 % of these were operated, and 61 % of them had interventional bronchospy procedures in our hospital.

Keywords: lung cancer, diagnosis, therapy
Intrapericardial pneumonectomy in benign lung diseases

Sami Karapolat¹, Atila Türkyılmaz¹, Mustafa Esat Yamaç¹, Mehmet Kılıç¹, Yunus Karaca², Dilek Kutaniş³, Celal Tekinbaş¹
¹Department of Thoracic Surgery, Karadeniz Technical University, Trabzon, Turkey
²Department of Emergency Medicine, Karadeniz Technical University, Trabzon, Turkey
³Department of Anesthesiology and Reanimation, Karadeniz Technical University, Trabzon, Turkey

INTRODUCTION: Intrapericardial pneumonectomy is special surgical method in benign lung diseases, such as tuberculosis, chronic septic lung infections, and opportunistic invasive infections.

MATERIALS-METHOD: Four patients who underwent intrapericardial pneumonectomy due to benign lung disease between January 2013 and January 2014 were assessed retrospectively for demographic characteristics, symptoms, etiology/surgical indication, localization, pericardial closure method, complications, mortality, length of hospitalization, and short-term follow-up results.

RESULTS: Two of the patients were male and two female. Their ages ranged 34-62 (mean 46). The most common symptoms were frequent lung infections and hemoptysis. Two patients had tuberculosis, one patient bronchiectasis, and one patient destroyed lung due to tuberculosis-aspergilloma. Intrapericardial pneumonectomy was performed to three patients due to dense adhesions between the lung and mediastinum and to one patient due to presence of large solid lymph nodes that hinder dissection in hilum. The left lung was affected in all cases. Pericardium was closed primarily in three patients and was fully opened in one patient. In postoperative period, pneumonia-sepsis developed in one patient who had chronic renal failure, but it was healed with medical treatment. The patient whose pericardium wasn’t closed died due to cardiac arrest that occurred on 3rd day. The length of hospitalization was 11-22 days (mean 14 days). No infection or hemoptysis was seen in three patients who were followed up 4-7 months.

CONCLUSION: Although intrapericardial pneumonectomy can be used in benign lung disease surgery for making it easy to control hilar vessels, it has a seriously high morbidity and mortality rates.

Keywords: Benign lung diseases; Pericardium; Pneumonectomy
Comparison of Preoperative and Postoperative FEV1 Values in Patients Performed Diaphragmatic Plication by Minimal Invasive Surgery

İrfan Yalçınkaya¹, Levent Alpay¹, Mustafa Küpeli², Mustafa Vayvada¹, Özlem Oruç³, Sibel Arınıç³, Dilek Ernam³

¹Sureyyapasa Chest Diseases and Chest Surgery Training and Research Hospital, Department of Thoracic Surgery, Istanbul
²Gaziosmanpasa University School of Medicine, Department of Thoracic Surgery, Tokat
³Sureyyapasa Chest Diseases and Chest Surgery Training and Research Hospital, Department of Chest Diseases, Istanbul

Although diaphragm paralysis and eventration are seen very rarely, they can lead to respiratory and gastrointestinal symptoms in clinically. Plication is a surgical method used in symptomatic cases. This method has been applied by thoracotomy, it can be administered by video-assisted thoracoscopic surgery (VATS) since 1995. It can be fall in pulmonary function parameters in varying proportions depending on both this pathology and thoracotomy.

In our clinic, between 12/22/2009 – 04/10/2013 we mean in about 3 years and 3 month period, diaphragmatic plication was performed to a total of 20 cases by minimally invasive surgery. All of the patients, called for controls intermittently, were called for controls in May and June 2013. Demographic characteristics of patients, clinical and operative findings are summarized in Table 1. Symptoms had been disappeared in all patients, although only two patients had continued mild symptoms. During follow-up, if the two deceased patients due to lung cancer and heart attack are excluded, preoperative and final FEV1 (FEV1: Forced Expiratory Volume in 1 second) values are observed in Table 1. Pulmonary function tests of 12 patients of 16 patients, FEV1 values has improved at rates ranging from 13.9-78.4% (mean 33%), it has changed without significant proportion in 4 patients.

In the literature, as in the thoracotomy approaching, serious improvements have been reported in the short and long-term follow-up pulmonary function parameters in VATS plication. Plication performed by minimally invasive surgery in diaphragm paralysis and eventration, pulmonary function parameters especially FEV1 significantly increased.

Keywords: diaphragm, paralysis, eventration, FEV1, plication, minimal invasive surgery

Table 1
Approach to the pneumomediastinum with massive subcutaneous emphysema

Serkan Özbay¹, Şerife Tuba Liman¹, Salih Topçu¹, Aslı Gül Akgül¹, Aykut Eliçora², Seymur Salih Mehmetoğlu¹, Hüseyin Fatih Sezer¹
¹Kocaeli University Faculty of Medicine Thoracic Surgery Department, Kocaeli
²Zonguldak Atatürk State Hospital, Zonguldak

The most common reasons of pneumomediastinum are thoracic trauma, endoscoping procedures, endotracheal intubation and spontaneous pneumomediastinum. The choice of treatment depends on the etiology, clinical symptoms and the complication risk; and hence varies from spontaneous pneumomediastinum (SPM). Conservative treatment is usually sufficient, but occasionally cervical mediastinotomy or thoracotomy may be necessary.

In the last ten years we treated 15 patients with massive subcutaneous emphysema in our clinic. The mean age for the 10 men and 5 women was 40 (12-71). The etiological factors were blunt thoracic trauma (7 cases), endotracheal intubation (4 cases), after asthma attack (2 case) and spontaneous pneumomediastinum in 2 cases. The reasons of traumatic cases (blunt thoracic trauma cases) were traffic accidents (4 cases), direct impact by a blunt heavy object (1 case), compression of the chest in anterior posterior direction (2 case) and falling from height (1 case). Pneumothorax was determined in 3 patients with blunt thoracic trauma. Tube thoracostomy was performed to the patients with pneumothorax. Cervical mediastinotomy was performed to our cases with massive mediastinal emphysema for decompression. The patients were discharged within 4-15 days.

If symptoms of compression are present, conservative treatment shall be avoided and procedures for decompression should be performed (cutaneous and subcutaneous incisions, needle aspiration, mediastinal catheter application and cervical mediastinotomy). The cervical mediastinotomy is the most effective and reliable method of treatment.

Keywords: pneumomediastinum, massive subcutaneous emphysema

Figure 1

View of the patient with massive subcutaneous emphysema
View of massive subcutaneous emphysema and pneumomediastinum in transverse sections of CT scan
Necessity for additional incisions with the cervical Collar incision to remove retrosternal goiters

Seymur Salih Mehmetoğlu¹, Asşı Gül Akgül¹, Salih Topçu¹, Serkan Özbay¹, Hüseyin Fatih Sezer¹, Şerife Tuba Liman¹, Zafer Cantürk², Zafer Utkan²
¹Department of Thoracic surgery, Kocaeli University, Kocaeli
²Department of General surgery, Kocaeli University, Kocaeli

Retrosternal goiters (RSGs) can be removed transcervically but additional incisions are sometimes necessary. We planned the factors determining the need for additional incisions to remove an RSG goiter based on our experience and on an algorithm.

Between 2006-2013 additional incisions were needed in 20 patients with RSG in whom collar excision was not successful. Partial sternotomy was performed in 5 patients, total sternotomy in 13 and thoracotomy in 2. Vocal cord paralysis was detected in 1 patient at admission to the clinic and was occurred in 2 patients due to the operation. Tracheal laseration was occurred in 1 patient due to the intubation. Resection could not performed to 1 patient after getting the frozen-section as medullary tiroid carcinoma. The final histopathologies were learned as adenomatous guatr in all patients in whom total tiroidectomy was applied.

Additional incisions can be made if thyroidectomy cannot be done transcervically and if the goiter extends to the level of the aortic arch. If the thyroid gland extends below the aortic arch and the lateral diameter of the goiter is greater than 10 cm, apartial sternotomy may be required. Total sternotomy is needed when an RSG extends caudally to the azygos vein, if it is located in the retrotracheal or retroesophageal space, or if it is recurrent or ectopic. Coexisting lung disorders and goiters extending to the left atrium also require thoracotomy.

Keywords: Retrosternal goiters,
Surgical treatment of primary intrathoracic guatr

Yasemin Bilgin Büyükkarabacak, Ayşen Taslak Şengül, Burçin Çelik, Mehmet Gökhan Pirzirenli, Tuba Apaydın, Ahmet Başoğlu
Department of Thoracic Surgery, Ondokuz Mayis University, Samsun, Turkey

INTRODUCTION: Primary intrathoracic guatrs are only 1% of all mediastinal tumors. Symptoms of tracheal compression, pathological diagnosis and risk of malignancy are indications of surgical resection.

MATERIAL-METHODS: Between 2000-2013, 7 patients who treated and followed due to primary retrosternal guatr were included in this study. Patients were evaluated on age, sex clinical and laboratory findings, its localizations, type of surgery, pathological diagnosis, complications, mortality and morbidity retrospectively. Chest X-ray, neck ultrasonography, chest computerize tomography were obtained all of patients. The patients who have large and/or close contact with the mediastinal tissues triode tissue were evaluated with MRI to assess the relationship between adjacent organs. Esophagoscopy and esohagography were obtained to a patient who admitted due to disphagia.

RESULTS: Four patients are female, 3 patients are male. The average age of the patients is 62.8. Troid was located right side of mediastinum in 4 patients, left side of mediastinum in 1 patient, bilateral mediastinal in 2 patients. Sternotomy was performed to 2 patinetes, left thoracotomy was performed to 1 patient and right thoracotomy was performed to 4 patients. Histopathological findings were reported as colloidal guatr in all of the patients. There was no mortality. Wound infections were detected in 2 patients and hypotroidia was detected in 1 patient.

CONCLUSION: Treatment of primary intrathoracic guatr is surgery. Extracervical approach should be preferred for safer bleeding control and better mediastinal anatomic view.

Keywords: surgery, guatr, intrathoracic
Effect of laryngofarangeal reflux on inflammatory markers in exhaled breath condensate in patients with asthma

Ayşe Yılmaz, Ahmet Eyibilin, Şemsettin Şahin, Ismail Benli, Emre Kuyucu, İlker Etişan
Gaziosmanpasa University Faculty of Medicine

INTRODUCTION: Laryngofarangeal (LFR) and gastroösophageal reflux are more common in asthmatics.

OBJECTIVE: To investigate the effect of LFR on inflammatory markers in exhaled breath air (EBC) of patients with asthma.

MATERIALS-METHODS: Group I: only those with asthma, Group II: asthma patients with LFR, Group III: simply patients with LFR and Group IV: the control. Examples of EBC was obtained by the Ecoscreen device (Jaeger, Germany) and LTE4, NO, H2O2, 8-isoprostane levels were determined by EIA.

RESULTS: Age, gender and education level were similar (p=0.14, p=0.16, p=0.26). Atopy didn’t differ between the groups (p=0.26). In general, H2O2 levels of patients with positive skin prick tests and isoprostane levels of patients with rhinitis were higher (p=0.02, p=0.003). When all groups compared, differences detected between the levels of isoprostane and H2O2 (respectively, p=0.019, p=0.031). Isoprostane level of group I was higher than group II and group III’s levels (respectively, p=0.045, p=0.018). H2O2 level of group I were higher than in group IV (p=0.033). H2O2 levels of both asthmatics and those with only reflux were higher than control’s (respectively, p=0.013, p=0.034). In all groups, H2O2 levels of their with prick positive; isoprostane levels with rhinitis were than higher than others (respectively, p=0.028, p=0.003).

In all asthmatics, there are a weak and insignificant positive correlation between some pulmonary function test parameters (PFTp) and LTE4 and isoprostane; negative correlation between nitrite/nitrate, nitrate and H2O2; group I: positively with LTE4, isoprostane and nitrite and nitrite/nitrate, nitrate, and H2O2 negatively; group II: positively with isoprostane, nitrite/nitrate, nitrate, and negatively with H2O2; group III: positively with LTE4, isoprostane and nitrite, and negatively with nitrite/nitrate and nitrate; group IV: positively with LTE4 and the other markers negatively. The significant relationships in comparison between the EMs and SFTp are summarized in Table 2.

DISCUSSION: Measurement of exhaled H2O2 in evaluating with the airway inflammation both all asthmatics and those with only reflux has been shown to be useful in our study.

Keywords: Asthma, laryngopharyngeal reflux, inflammatory markers (LTE4, NO, H2O2, 8-isoprostane), the breath condensate

Exclusion criteria of the study

<table>
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<th>Pregnant women</th>
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<td>Those with comorbidities</td>
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<tr>
<td>A history of upper respiratory tract and other infections the last 4 weeks</td>
<td>&lt;18 years of age</td>
</tr>
<tr>
<td>Those who are antacid treatment</td>
<td>Asthma patients with uncontrolled</td>
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<td>Those who are active smokers</td>
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The significant relationships in comparison between the EMs and SFTp

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<th>PFTp</th>
<th>EM</th>
<th>r</th>
<th>p</th>
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<td>FEV1ml</td>
<td>nitrat</td>
<td>-0.256</td>
<td>0.048</td>
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<tr>
<td>All of asthmatics</td>
<td>PEFml</td>
<td>nitrit/nitrat</td>
<td>-0.265</td>
<td>0.041</td>
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<tr>
<td>Category</td>
<td>Parameter 1</td>
<td>Parameter 2</td>
<td>r</td>
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<tr>
<td>All of asthmatics</td>
<td>PEFml</td>
<td>H2O2</td>
<td>0.275</td>
<td>0.034</td>
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<td>nitrat</td>
<td>-0.393</td>
<td>0.035</td>
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<td>FVCml</td>
<td>H2O2</td>
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<td>0.043</td>
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<td>Simply patients with LFR</td>
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<td>isoprostan</td>
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<td>0.038</td>
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<td>Control group</td>
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<td>isoprostan</td>
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<td>Control group</td>
<td>FEV1/FVC rate</td>
<td>nitrat</td>
<td>-0.461</td>
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</table>

*EM: inflammatory marker*  
*PFTp: pulmonary function test parameters*
Obesity-Asthma Phenotype; Effect of Obesity on Asthma Course in Adults

Zeynep Çelebi Sözener, Ömür Aydın, Dilşad Mungan, Zeynep Mısırlıgil
Ankara University School of Medicine, Department of Chest Diseases, Division of Allergy and Clinical Immunology

Introduction
Obesity-asthma phenotype has become an increasingly common situation in our practice. Asthma in obese patients is often characterized as severe and poorly controlled disease. The mechanisms behind this remain unclear. We aimed to determine the effect of obesity on asthma control in a group of adult patients

Method
Subjects with diagnosis of asthma were included to this study. BMI and asthma control status of the patients were evaluated. BMI values at the time of diagnosis were also collected from the patient files and the difference between basal and current BMI values were calculated. Effect of obesity and weight gain on asthma control were investigated.

Results
Study population consisted of 218 patients; (29 male/189 female), 79.3% of the patients were aged between 35-65 years. In 67.4% of the patients, disease duration was more than 10 years. 51.4 % of the patients were obese. BMI values were higher in females than males both at the time of diagnosis and current evaluation. Comorbid diseases became much more frequent with the increase of the BMI. Asthma control was lower in obese and overweight patients despite optimal treatment. In 55.5% of the patients, BMI was constant during the follow up period and asthma control was higher in this group of patients.

Conclusion
According to the results of our study; we think that obesity and presence of comorbid conditions complicated control of asthma. We suggest that weight loss may improve asthma course.

Keywords: asthma, BMI, obesity
**Effects of inhaled steroid therapy on exhaled breath condensate and blood biomarkers in newly diagnosed smoker and nonsmoker asthmatics**

Berna Duman¹, Bilun Gemicioglu¹, Nurhayat Yildirim¹, Nilgun Akdeniz², Sema Gazioğlu², Günner Deniz²

¹Istanbul University, Cerrahpasa Faculty of Medicine, Department of Pulmonary Diseases
²Istanbul University, Institute of Experimental Medicine, Department of Immunology

Smoking makes asthma treatment and asthma control difficult with various inflammatory effects. In this study, we aimed to demonstrate the inflammation with local and systemic mediators, pre and post inhaled steroid treatment differences between smoker and nonsmoker asthmatics by measuring LTD4, 8-isoprostane in EBC (exhaled breath condensate) and blood. The study was completed at 19 newly diagnosed asthma patients. EBC and blood samples were taken pulmonary function was measured before and 3 months after inhaled steroid treatment. ACT was performed at third month control visit. LTD4, 8-isoprostane were measured in blood and EBC. Differences of these parameters between groups before and after treatment were compared statistically.

The mean age of 19 patients was 35.5±13.9 years, 10(52.6%) were nonsmokers, 9(47.4%) patients were still smoking (more than 1 pack/year and less than 10 pack/years). Pretreatment blood and EBC LTD4, 8-isoprostane levels were compared between smoker and nonsmoker patients, significant difference was not found (p>0.05). There was no significant difference between smoker and nonsmoker patients about changes at the levels of pre and post treatment blood LTD4, 8-isoprostane and EBC LTD4 (p>0.05). Remaining high levels of LTD4 in smokers after treatment is remarkable although significance was not found. The decrease of EBC 8-isoprostane levels was significantly higher at nonsmoker group (p<0.05). Therefore, although clinical control was performed, it seems difficult to predict the response to treatment at smoker asthmatics.

**Keywords:** Asthma, 8-isoprostane, exhaled breath condensate, LTD4, smoker
Asthma control test via text messaging: could it be a tool for evaluating asthma control?

Mehmet Atilla Uysal1, Dilşad Mungan2, Arzu Yorgancıoğlu3, Füsun Yıldız4, Metin Akgün5, Bilun Gemicioğlu6, Haluk Türktaş7, Gülcihan Özkan1, İnsu Yılmaz7, Mine İncioğlu10, Figen Deveci11, Didem Pulur5, Eylem Selcan Özgür8, Berna Dursun12, Yılmaz Bülbül13, Ebru Sulu14, Veysel Yılmaz1

1Department of Chest Diseases, Yedikule Training and Research Hospital for Chest Diseases and Thoracic Surgery, Istanbul, Turkey,
2Department of Chest Diseases, Division of Allergy, School of Medicine, Ankara University, Ankara, Turkey,
3Department of Chest Diseases, Faculty of Medicine, Celal Bayar University, Manisa, Turkey,
4Department of Chest Diseases, Faculty of Medicine, Kocaeli University, Kocaeli, Turkey
5Department of Chest Diseases, Faculty of Medicine, Atatürk University, Erzurum, Turkey
6Department of Chest Diseases, Cerrahpasa Faculty of Medicine, Istanbul University, Istanbul, Turkey
7Department of Chest Diseases, Medical Faculty, Gazi University, Ankara, Turkey
8Department of Chest Diseases, Mersin University, Faculty of Medicine, Mersin, Turkey
9Department of Chest Diseases, Erzurum State Hospital, Erzurum, Turkey
10Department of Chest Diseases, Gaziantep University, Faculty of Medicine, Gaziantep, Turkey
11Department of Chest Diseases, Elazığ University, Faculty of Medicine, Elazığ, Turkey
12Department of Chest Diseases, Atatürk Hospital For Chest Diseases and Thoracic Surgery Training and Research Hospital, Ankara, Turkey
13Department of Chest Diseases, Karadeniz Technical University, Faculty of Medicine, Trabzon, Turkey
14Department of Chest Diseases, Sureyyapasa Hospital For Chest Diseases and Thoracic Surgery Training and Research Hospital, Istanbul, Turkey

AIMS: Originally, the Asthma Control Test (ACT) was designed for English-speaking patients using a paper-and-pencil format. The Turkish version of the ACT was recently validated. This study compares the paper-and-pencil and web-based texting formats of the Turkish version of the ACT and evaluates the compatibility of these ACT scores with GINA-based physician assessments of asthma control.

METHODS: This multicentre prospective study included 431 asthma patients from outpatient clinics in Turkey. The patients were randomized into a paper-and-pencil group (n=220) and a text messaging group (n=211). Patients completed the ACT at Visit 1, after 102 days, and at 51 week to demonstrate the reliability and responsiveness of the test. At each visit, physicians assessed patients’ asthma control levels.

RESULTS: The ACT administered via texting showed an internal consistency of 0.82. For the texting group, we found a significant correlation between the ACT and physician assessments at Visit 1 (r=0.60, p<0.001). The AUC was 0.87, with a sensitivity of 78.0% and a specificity of 77.5% for a score of 19 for screening “uncontrolled” asthma in the texting group.

CONCLUSION: When the Turkish version of the ACT was administered via either the paper-and-pencil or text messaging test, scores were closely associated with physician assessments of asthma control.

Keywords: Asthma Control,
SS069[Asthma and Allergy]

Early effect of therapy with ultra fine particles in newly diagnosed asthma

Gulden Pasaoglu Karakis, Berna Duman, Melahat Uygun, Bilun Gemicioglu
Istanbul University, Medical School of Cerrahpasa, Department of Chest Disease, Immunology Allergy

Showing that inflammation extends to the small airways in asthma suggests the need for evaluation of the results of treatment in newly diagnosed patients. For this purpose, evaluating the results of randomized treatments of patients with asthma retrospectively, the early results of the treatment with ultra-fine particles and dry powder inhaler in patients with involvement of small airway were asked to put forward.

Pulmonary function tests (PFT) and the control condition (ACT) before and after 3 months of treatment of a total of 45 patients with asthma and inhaled treatments randomly were reviewed retrospectively. 23 cases selected that among cases with small airway involvement and according to they used ultra-fine particles (n = 15) or dry powder inhaler (n = 8) were divided into 2 groups. PFT and ACT’s of groups at baseline and after 3 months were compared.

A total of 23 patients, the mean age is 42.6 year old, 15 of them are females and 8 are males. When the cases with small airway obstruction and prescribing the ultrafine particles were compared with dry power inhalers at 3 months we were found statistically improved only in FEV1 (p=0.017). Considering ACT there were no change between the groups. (respectively, 22.79, 22.85).

According to presence of small airway obstruction prescribing ultra-fine particles in patients with newly diagnosed asthma in early period resulted significant improvement in FEV1. Even though long-term consequences of this condition is not known yet we though that the small airway involvement must be investigate in pre-treatment.

Keywords: asthma, small airway, ultrafine particles, treatment
Impact of comorbidities on COPD Assessment Test (CAT) scores

Sibel Atış Naycı, Eylem Sercan Özgür, Cengiz Özge, Yasin Duman, Ahmet İlvan
Department of Chest Diseases, Mersin University, Mersin, Turkey

Recently, the CAT is recommended as a promising tool for assessing the impact of COPD on the individual patient. Although it was known that COPD patients have a high frequency of comorbidities, little known about the contribution of these comorbidities to CAT score. We aimed to assess the impact of comorbidities on disease-specific health status as assessed by CAT in stable COPD patients.

This is a cross-sectional study of 142 patients who completed the CAT. Data were recorded in stable state and included spirometry, mMRC, BMI, exacerbation frequency and hospitalisation rate in the previous year, and physician-diagnosed comorbidities (diabetes, hypertension, coronary artery disease, chronic heart failure, depression). Multiple regression analyses were performed to examine the contribution of comorbidities to CAT scores.

Patients had a mean age of 60.9±8.7, FEV1 of 54.8±18.4% predicted, CAT score of 14.16±7.4 units. 97 (68.3%) of patients had at least one comorbidity. Cardiovascular diseases (60.8%), metabolic diseases (40.2%), and anxiety/depression (21.6%) were the most prevalent ones. CAT scores in patients with a comorbidity were significantly higher than without comorbidity (p<0.05). In univariate analysis, positive correlations were found between CAT scores and age and dyspnea, whereas negative correlations were found with FEV1 in COPD patients with comorbidities (p < 0.001 for each variable), but not in subjects without comorbidities. In multivariate analyses, major independent determinants of CAT score included older age, dyspnea and presence of any comorbidity.

These data suggest that older age and the presence of dyspnea and comorbidity are the important contributors to CAT score in COPD subjects, whereas FEV1 have only limited impact.

Keywords: COPD, comorbidities, CAT, exacerbation, hospitalisation
Treatment Approaches in Chronic Obstructive Pulmonary disease in Clinical Practice of Respiratory Care in Turkey: A multicenter Real-Life Study

Elif Şen1, Salih Zeki Güçlü2, Işıl Kibar3, Ülkü Bolol4, Hikmet Tereci5, Veysel Yılmaz6, Onur Çelik7, Filiz Çimen8, Füsun Topçu9, Meltem Orhun10, Aylin Konya11, İdilha Saryal1
1Ankara University, School of Medicine, Respiratory Diseases Department
2İzmir Dr. Suat Seren Pulmonary Diseases and Surgery Education and Research Hospital
3Istanbul Hospital
4Adana Prof. Dr. Nusret Karasu Respiratory Diseases Hospital
5İstanbul Pulmonary Diseases and Pulmonary Surgery Hospital
6Yedikule Pulmonary Diseases and Surgery Education and Research Hospital
7Erzurum Nihat Kitapçı Pulmonary Diseases and Pulmonary Surgery Hospital
8Atatürk Pulmonary Diseases and Surgery Training and Research Hospital
9Dicle University, School of Medicine, Respiratory Diseases Department
10Üsküdar State Hospital
11Novartis Pharmaceuticals, Turkey

Introduction and Aim
Due to lack of sufficient data about COPD treatment approach in Turkey, we aimed to assess COPD patients in real-life respiratory care clinical practice in Turkey.

Materials and Method
This study was conducted in 11 centers in 8 cities representing all geographical areas and medical records of COPD patients >=40 years old whose spirometry in last two years and treatment data in 6-month were evaluated.

Patient characteristics, comorbidities
Information about comorbidities was available in 308 of 406 patients with FEV1/FVC>=70% whose mean age 62.4 years, 75 of them never smoked. 86% of patients had >=1 comorbidity and 78.4% of them were cardiovascular disorders.

Treatment
113 patients (10%) were on monotherapy, 224 (19.9%) were on two-drug, 536 (47.5%) were on three-drug, 216 (19.2%) were on four-drug combinations. The most commonly used monotherapy and two-drug combination were long acting anticholinergic (LAMA) and inhaled corticosteroids (ICS)+long acting beta 2 agonist (LABA) respectively. 26 patients were using only ICS. 84.3% of patients were taking ICS containing treatment.
14.0%, 24.4%, 45.8%, and 13.1% of patients with FEV1/FVC >=70% were treated with one, two, three, four-drug therapies, respectively. The proportion of patients using LAMA, LABA+ICS, LABA+ICS+LAMA+ methylxantine (MTX) in FEV1/FVC > =70% and FEV1/FVC<70% were 10.8% - 4.2%; 21.2% - 10.8% and 13.1% - 22.5% respectively.

Conclusion
This observational study reflected real-life practice. Incompliance to the diagnostic criteria in the guidelines, trends towards using multiple drug treatments and ICS were shown. Comorbidity data was usually missing in records and cardiovascular disorders were the most commonly observed comorbidity.

Keywords: Chronic obstructive pulmonary disease, COPD treatment, inhaled corticosteroid, multiple treatment, real-life
Figure 1. COPD treatment approaches

A graphic that shows COPD treatment approaches in all patients.

Table 2. Comorbidities

<table>
<thead>
<tr>
<th>Comorbidities</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eşlık eden hastalık bilgisi olan</td>
<td>848</td>
<td>100</td>
</tr>
<tr>
<td>Eşlık eden hastalığı olmayan</td>
<td>190</td>
<td>22,4</td>
</tr>
<tr>
<td>Eşlık eden en az bir hastalık</td>
<td>658</td>
<td>77,5</td>
</tr>
<tr>
<td>Eşlik eden birden fazla hastalık</td>
<td>376</td>
<td>44,3</td>
</tr>
<tr>
<td>Eşlik eden hastalıklar</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kardiyovasküler hastalıklar</td>
<td>542</td>
<td>82,3</td>
</tr>
<tr>
<td>Hipertansiyon</td>
<td>346</td>
<td>52,5</td>
</tr>
<tr>
<td>Kardiyovasküler hastalıklar</td>
<td>289</td>
<td>43,9</td>
</tr>
<tr>
<td>Hiperkolesterolemi</td>
<td>90</td>
<td>13,6</td>
</tr>
<tr>
<td>Diyabet</td>
<td>159</td>
<td>24,1</td>
</tr>
<tr>
<td>Depresyon/ anksiyete</td>
<td>67</td>
<td>10,1</td>
</tr>
<tr>
<td>Osteoporoz</td>
<td>56</td>
<td>8,5</td>
</tr>
<tr>
<td>Atopi/ alerji</td>
<td>45</td>
<td>6,8</td>
</tr>
<tr>
<td>Benign prostat hipertrofisi</td>
<td>31</td>
<td>4,7</td>
</tr>
<tr>
<td>Kanser</td>
<td>26</td>
<td>3,9</td>
</tr>
<tr>
<td>Akciğer kanseri</td>
<td>12</td>
<td>1,8</td>
</tr>
<tr>
<td>Diğer organ/sistem kanserleri</td>
<td>14</td>
<td>2,1</td>
</tr>
<tr>
<td>Anemi</td>
<td>23</td>
<td>3,4</td>
</tr>
<tr>
<td>OSAS</td>
<td>6</td>
<td>0,9</td>
</tr>
<tr>
<td>Diğer eşlik eden hastalıklar</td>
<td>82</td>
<td>12,4</td>
</tr>
</tbody>
</table>

% = Yüzdelere eşlik eden hastalık bilgisine ulaşılan hasta sayısı üzerinden verilmiştir.
%* = Yüzdelere eşlik eden hastalığı olan hasta sayısı üzerinden verilmiştir.

OSAS: Obstructive sleep apnea syndrome (Obstrüktif uykı apne sendromu)

Comorbidities in patients whose comorbidity information available
<table>
<thead>
<tr>
<th>Characteristics</th>
<th>n=1125</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (year), average (SD)</td>
<td>62,8 (10,1)</td>
</tr>
<tr>
<td>Male gender, n (%)</td>
<td>920 (81,8)</td>
</tr>
<tr>
<td>The duration of the disease (year), average (SD)</td>
<td>5,3 (5,4)</td>
</tr>
<tr>
<td>FEV1/FVC(%) , average (%)</td>
<td>66,2 (16,3)</td>
</tr>
<tr>
<td>FEV1/FVC&gt; = 70%, n (%)</td>
<td>406 (36)</td>
</tr>
<tr>
<td>FEV1(L), average (SD)</td>
<td>1,5 (1,6)</td>
</tr>
<tr>
<td>FEV1 (%), average (SD)</td>
<td>50,2 (19,5)</td>
</tr>
<tr>
<td>Social security, n (%)</td>
<td>1074 (97,5)</td>
</tr>
<tr>
<td>Smoking history &gt;20 package/year, n (%)</td>
<td>784 (81,5)</td>
</tr>
<tr>
<td>Smoking history, n (%)</td>
<td>973 (86,6)</td>
</tr>
<tr>
<td>Active smoker</td>
<td>329 (29,3)</td>
</tr>
<tr>
<td>Ex-smoker</td>
<td>644 (57,3)</td>
</tr>
<tr>
<td>Never smoked, n (%)</td>
<td>151 (13,4)</td>
</tr>
</tbody>
</table>
SS072[COPD]

The relation between Surfactant Protein D and COPD severity

Elif Şen, Fatma Çiftci, Gökçen Arkan, Duygu Acar, Sevgi Saryal
Ankara University School of Medicine, Department of Chest Disease, Ankara, Turkey

SPD is a glycoprotein which is synthesized in type-2 pneumocytes. Apart from modulating surfactant homeostasis, it plays an important role as a defence mechanism against various infections and allergens. In COPD patients serum SPD levels are significantly higher. This may have a role in COPD pathogenesis and progression. The aim of this study is to define the relationship between SPD level and COPD grade, disease severeness.

Sixty-four(5F, 59M) COPD subjects with a mean age of 63,67±9,16years and 25(8F, 17M) healthy control subjects with mean age of 53,80±8,23years were enrolled. Medical history, smoking history, occupational exposure, and comorbidities were questioned. Laboratory tests, arterial blood gases, chest X-ray, pulmonary function tests, and exercise test (6MWT) were performed. CAT score, Charlson Comorbidity Index and St-George Questionnaire scores were calculated.

Subjects were classified according to GOLD criteria (1(1,7%) subject was in Grade1, 41(68,3%) subjects in Grade 2, 12(20%) subjects in Grade 3 and 6(10%) subjects in Grade 4. 6MWT distance was 454,94±104,12 meters. CAT score was measured 11,5±8,24. The mean BMI of COPD group(27,36±4,41) was lower than control group(29,49±4,00)(p<0,05). Serum SPD level was higher in COPD group(171,85±113,00) than control group(106,80±46,68)(p<0.05). SPD level was not related to age, BMI, smoking status, and occupational exposure. There wasn't a significant correlation between COPD stages and SPD. There was a significant correlation between SPD and pCO2(r:0,325;p:0,020). SPD was significantly correlated with FEV1(L), FEV1(%), and FEV1/FVC rate(r:-0,266;p:0,042;r:-0,324;p:0,013;r:-0,343;p:0,008, respectively). Furthermore, there was a significant correlation between SPD and diffusion capacity(r:-0,283;p:0,034).

In conclusion, SPD was correlated with lung function loss, carbon dioxide level, and diffusion capacity.

Keywords: Surfactant Protein D, COPD, lung function
INTRODUCTION: The assessment of COPD aims to determine the severity of the disease, its impacts on the health status, the risk of future events. A combined assessment of COPD was proposed in GOLD guidelines and categorized by A,B,C,D groups. This study aimed to measure pulmonary function tests and exercise capacity in COPD patients assessed by A,B,C,D classification.

METHOD: Ninety-three male, 7 female COPD patients were included into the study. Demographics were recorded. Spirometric expiratory flow, plethysmographic lung volumes, arterial blood gases measurements and six minute walking tests were performed. The comparisons between groups by one-way ANOVA in normally distributed parameters and by nonparametric independent samples comparisons in others, correlation analysis were performed using SPSS 11.0 package program.

RESULTS: Mean age was calculated as 63.73±9.11, BMI 26.23±4.22, FVC% 83.80±18.84,FEV1% 57.50±18.15, FEV1/FVC 53.29±10.62, TLC% 108.73±19.17, RV% 164.99±54.97, RV/TLC 54.25±11.40. Mean FVC, FEV1%, FEV1/FVC, RV%, RV/TLC, PaO2, PaCO2, 6 minute walking distance,CAT scores were significantly different, while mean age, BMI, pack-year, %TLC, pH were not different between A,B,C,D groups.Negative correlations were found between CAT scores and FEV1% (r=-0.31,p=0.001), FEV1/FVC(r=-0.28,p=0.01), PaO2(r=-0.23,p=0.03), 6 minute walking distance (r=-0.26,p=0.01).

CONCLUSION: In this study, it was shown that expiratory flow measurements, lung volumes, arterial blood gases, exercise capacity may differ between GOLD A,B,C,D groups. CAT scores proposed to use in the determination of this classification was negatively correlated with expiratory flow limitation, hypoxemia and exercise capacity. In conclusion, the patophysiologic effects of COPD may have significant differences between groups in this approach of the disease evaluation

Keywords: COPD, GOLD stage, pulmonary functions, CAT score, six minute walking distance
**Factors associated with lower physical activity in patients with COPD**

**INTRODUCTION:** Lower physical activity (PA) is related with significant mortality, morbidity in COPD. Several factors which affect lower PA have been defined. Our aim was to evaluate the risk factors of lower PA in COPD.

**METHODS:** 248 stable COPD patients who admitted to Cukurova University Faculty of Medicine Department of Pulmonary disease were prospectively recruited. After obtaining clinical and demographical data, comorbidity status, MMRC dyspnea score and BODE index were recorded and respiratory function tests (RFT) and 6-minute walking tests were performed. Physical activity levels were assessed with "International Physical Activity short form-7 days" Turkish version. Logistic regression analysis was performed to identify the potential risk factors of lower PA.

**RESULTS:** Lower PA was determined in 76.2% of the patients. When the patients with intermediate and higher PA compared those with lower PA, patients with lower PA were older, had lower educational status, had higher smoking intensity and all RFT parameters including pre and post-bronchodilator FEV1(L), and (%), pre and post-bronchodilator FVC (L) and (%), FEV1/FVC, DLCO, RV/TLC were significantly lower. In addition, the prevalence of lower PA were significantly more common in patients with MMRC=2, BODE=2 and those who has at least three co-morbidities. After adjustment for age, gender, lower educational status (OR:2.12; %95CI 1.05-4.28)(p=0.028), lower post FEV1(L)(OR:2.04; %95 CI 1.16-3.59)(p=0.013) and MMRC=2(OR:4.94; %95CI 1.40-17.34)(p=0.013) were identified as independent risk factors of lower PA.

**CONCLUSION:** This study showed that education and suggestions should be performed robustly, moreover treatment and follow-up should be performed more carefully in COPD patients those at greatest risk of lower PA.

**Keywords:** COPD, lower physical activity, risk factors
Side Effects Of The Leukotriene Receptor Antagonists In Asthmatic Children

Semiha Bahçeci Erdem, Hikmet Tekin Nacaroğlu, Canan Şule Karkiner, İlíker Günay, Demet Can
Department of Pediatric Allergy and Clinical Immunology, Dr Behçet Uz Children's Hospital, Izmir, Turkey

BACKGROUND: Leukotriene receptor antagonists (LTRAs) are drugs which have been widely used more than ten years. As the use of LTRAs increases, our knowledge with respect to their side effects rises, as well.

OBJECTIVE: It was aimed to evaluate the observed side effects of LTRAs that patients with asthma use.

METHODS: 1024 patients who were only initiated LTRAs treatment owing to asthma or early wheezing were involved in the study for a five-year period. The observed side effects of LTRAs in these patients were retrospectively investigated. The side effects were divided into two parts as psychiatric and non-psychiatric.

RESULTS: It was found out that 67.5% of 41 (4%) patients in whom side effects were observed was male and their average age was 6.5. The rate of patients with asthma was 63.41% and it was 36.58% for patients with early wheezing. It was determined that sex, age and diagnosis (early wheezing or asthma) of the patients were ineffective in the emergence of side effects. The average period for the emergence of side effects was the initial month. The average period for side effects to appear was one month. It was observed that hyperactivity was the most frequently seen psychiatric side effect and abdominal pain was the non-psychiatric side effect.

CONCLUSION: The side effects of LTRAs were typically seen in children. Therefore, patients must be informed at the beginning of the treatment and they must be evaluated at certain intervals.

Keywords: Leukotriene receptor antagonists, side effect, asthma
Antimicrobial peptide cathelicidin (LL-37) and human β-defensin 2 in bronchoalveolar lavage fluid of children with pulmonary tuberculosis

Erkan Çakır¹, Emel Torun², Ahmet Hakan Gedik¹, Tarık Umutoğlu³, Esin Çetin Aktaş⁴, Ufuk Topuz³, Günnur Deniz⁴
¹Bezmialem Vakif University Medical Faculty, Department of Pediatric Pulmonology, Istanbul, Turkey
²Bezmialem Vakif University Medical Faculty, Department of Pediatrics, Istanbul, Turkey
³Bezmialem Vakif University Medical Faculty, Department of Anesthesiology, Istanbul, Turkey
⁴Istanbul University, Department of Immunology, Institute of Experimental Medicine (DETAE), Istanbul, Turkey

BACKGROUND: The antimicrobial peptides cathelicidin LL-37/hCAP-18 and human β-defensins (hBD) are the key factors in innate immune responses of the respiratory tract. The aim of this study was to determine the concentrations of LL-37 and hBD-2 in bronchoalveolar lavage (BAL) fluid of pediatric patients with pulmonary tuberculosis (TB) compared to healthy children.

METHODS: We measured the concentrations of these peptides using an immunosorbent assays (ELISAs).

RESULTS: Forty TB patients and 40 healthy control were enrolled to the study. The mean age of the children was 9.2±4.7 and 8.3±4.2 respectively (p=0.97). There was no statistically difference between gender, body mass index score, relative weight, and 25-hydroxyvitamin D levels between two groups. The mean (±SD) BAL LL-37 level of the TB group was significantly increased than the control group (0.95±1.33 ng/mL and 0.35±0.51 ng/mL, p=0.01, t=2.54). The hBD-2 level was higher in TB group compared with healthy controls but not reached to a statistically significant level (0.30±0.58 ng/mL and 0.14±0.30 ng/mL, p=0.11). There was no correlation between LL-37, hBD-2 and 25-hydroxyvitamin D levels.

CONCLUSIONS: Our data suggest that LL-37 and hBD-2 may play an important role in the pathogenesis of TB in children. To our knowledge, this is the first report showing BAL LL-37 and hBD-2 concentration in children with pulmonary TB.

Keywords: Antimicrobial peptides, child, defensin, cathelicidin, tuberculosis
Figure 2

The mean LL-37 level of the TB group and the control group (0.95±1.33 ng/mL and 0.35±0.51 ng/mL, p=0.01)

Figure 2

The hBD-2 level of the TB group and healthy controls (0.30±0.58 ng/mL and 0.14±0.30 ng/mL, p=0.11).
Influence of Second Hand Smoke on Nasal Anti-oxidant Levels In Wheezy Children

Özge Yılmaz¹, Ahmet Türkeli¹, Ece Onur², Sema Bilge², Hasan Yüksel¹
¹Department of Pediatric Allergy and Pulmonology, Celal Bayar University Medical Faculty, Manisa, Turkey
²Department of Medical Biochemistry, Celal Bayar University Medical Faculty, Manisa, Turkey

INTRODUCTION: Second-hand smoke exposure may increase lung damage and inflammation associated with childhood wheezing. Smoke exposure might influence oxidant stress in these children as in COPD. Therefore, second-hand smoke exposure in wheezy children might be expected to cause significant decrease in antioxidants.

AIM: Our aim was to determine the influence of second-hand smoke exposure in wheezy children on antioxidant glutathione levels.

METHODS: One hundred fifty children who presented to our department were enrolled. Children who had received steroids during previous two months and the ones with other lung diseases were excluded. Sociodemographic characteristics, age at onset of wheezing and symptom score of all children were recorded, nasal lavage and serum samples were obtained for measurement of glutathione and cotinine respectively. Second-hand smoke exposure was defined as cotinine levels above 10 ng/mL. Symptom score and glutathione levels were compared among children with and without exposure.

RESULTS: Smoke exposure was detected in 36 (24%) children. Mean ages, age at first wheezing and serum IgE were not different between groups (p=0.59, p=0.94 and p=0.83 respectively). However, bronchiolitis symptom score at enrollment was significantly higher in children exposed (1.6 ± 0.9 vs 0.9 ± 0.9 respectively, p<0.001). Glutathione levels were found to be significantly higher in nasal lavage samples of children exposed (1.6 ± 0.8 vs 1.3 ± 0.6 respectively, p=0.02).

CONCLUSION: Second-hand smoke exposure, in wheezing children, is associated with more severe respiratory symptoms and unexpectedly high nasal lavage glutathione. This may be explained by compensatory mechanisms to increased local nasal oxidant stress.

Keywords: Wheezing children, second hand smoke exposure, epithelial barrier defect, antioxidant system
The Efficacy Of Nebulized Hypertonic Saline In Acute Bronchiolitis In Hospital Setting: A Randomized And Double Blind Trial

Oya Koker, Sebnem Özdoğan, Gülsen Köse, Yıldız Yıldırım
Istanbul Sisli Hamidiye Etfal Training and Research Hospital, Pediatrics

OBJECTIVE: To compare the efficacy and safety of 5%, 3% and 0.9% saline solution combined with albuterol for treating mild to moderate acute bronchiolitis in hospital setting.

METHOD: We designed a randomized, double blind trial including infants 1-24 months of age admitted to the hospital for acute bronchiolitis. A total of 69 patients were randomized to receive nebulized 5%, 3%, or 0.9% saline with albuterol three times a day. A modified respiratory assessment score was used at admission, and at 48th hours of admission and at discharge. Outcome measures include change in respiratory score and length of hospital stay.

RESULTS: A total of 69 infants admitted with a diagnosis of bronchiolitis (mean age 7.1± 5.48 months) were enrolled. The demographic features, the initial respiratory assessment scores, and the rate of RSV positivity were similar in the 3 treatment groups (p>0.05). At 48 hours, the mean severity score for the 5% saline group was lower than the other groups but it was not statistically significant (p: 0.125). At discharge, the mean severity score for the 5% saline group was significantly lower than the other groups (p<0.05). Also the length of hospital stay was significantly lower for the 5% saline group (4.0±1.3 days, p>0.05).

CONCLUSION: Nebulized 5% hypertonic saline combined with albuterol is effective and safe in infants with mild to moderate acute bronchiolitis.

Keywords: Acute bronchiolitis, hypertonic saline, children
SS079[Pediatric Pulmonology]

Antimicrobial peptides cathelicidin (LL-37) ve human β2 defensin levels of pediatric patients with bronchiolitis obliterans

Ahmet Hakan Gedik1, Erkan Cakır1, Yasemin Gokdemir2, Seda Zeynep Uyan3, Abdurrahim Kocyigit4, Emel Torun5, Bülent Karadag2, Refika Ersu2, Fazilet Karakoc2
1Division of Pediatric Pulmonology, Bezmialem Vakif University, Istanbul, Turkey
2Division of Pediatric Pulmonology, Marmara University, Istanbul, Turkey
3Division of Pediatric Pulmonology, Kocaeli University, Istanbul, Turkey
4Department of Biochemistry, Bezmialem Vakif University, Istanbul, Turkey
5Department of Pediatrics, Bezmialem Vakif University, Istanbul, Turkey

INTRODUCTION: Antimicrobial peptides (AMP) are one of the most important component of innate immune system and have important role in many respiratory disease. No data is available in the literature about the levels of AMP in pediatric patients with bronchiolitis obliterans. AIM: To determine cathelicidin and defensin levels and compare between BO patients and control group.

METHOD: The patients between 0-16 years-old was admitted between 2012-2013 september and age and gender matched healthy controls were enrolled in the multi-center study. Serum cathelicidin (LL37) ve β2 defensin levels were determined with ELISA method.

FINDINGS: Sixty-three BO patients, sixty-seven percent of them were male, enrolled in the study. Median age was 74±58 months. Thirty-five children included to the study as control group and age and gender distribution were not statistically different between the two groups (p>0.05). Cathelicidin levels were significantly higher in BO group compared with healthy controls (p<0.001). No statistically significant difference between two groups were found according to β2 defensin levels (p>0.05). Preliminary results were reported because control group studies have been going on.

CONCLUSION: This is the first study about AMP levels of pediatric BO patients. According to preliminary findings cathelicidin levels were significantly higher in pediatric BO patients. AMP may have important roles in immune systems of pediatric BO patients.

Keywords: Child, bronchiolitis obliterans, cathelicidin, defensin
Chronic cough in childhood: Analysis of 505 cases

Ahmet Hakan Gedik¹, Erkan Cakır¹, Emel Torun², Aysegül Dogan Demir³, Mehmet Kucukkoc², Selcuk Uzuner⁴, Ufuk Erenberk², Mustafa Atila Nursoy⁵, Emin Ozkaya⁶
¹Division of Pediatric Pulmonology, Bezmialem Vakif University, Istanbul, Turkey
²Department of Pediatrics, Bezmialem Vakif University Faculty of Medicine, Istanbul, Turkey
³Division of Pediatric Allergy, Bezmialem Vakif University, Istanbul, Turkey

Introduction and AIM: Chronic cough may occur due to different etiologies in childhood. Demographical, clinical, and etiological characteristics of chronic cough patients analyzed prospectively.

METHOD: The patients prolonged cough over 1-months were admitted to pediatrics, pediatric pulmonology, and pediatric allergy clinics between 2012-2013 were included to the study.

FINDINGS: Five-hundred-five patients, 50.5% were male, included to the study. The number of patients between 0-2, 2-6, and over 6-years-old were 23%, 40%, 37%, respectively. The most common symptoms accompanied with cough were wheezing and sputum. Patients had recurrent episodes (51%), rhinorhea (32%), frequent sinusitis and otitis (16%), chronic runny nose (14%) in their history. Sixty-percentage of the patients had asthma history in their family. Roncus (20%), wheezing (17%), prolonged expiration (17%), decreased breath sounds (4%), tonsillar hypertrophy (12%), postnasal drip (7%) were found in the physical examinations. Last diagnoses: Atopic asthma (37.9%, n=181), allergic rhinitis and conjunctivitis (27.7%, n=140), early-onset wheezing (4.8%, n=18), viral-induced recurrent airway obstruction (17.8%, n=90), pneumonia (13.9%, n=52), laryngotracheomalacia (1%, n=3), bronchiectasis (6.3%, n=32), cystic fibrosis (5.1%, n=26), rhinosinusitis (6.3%, n=32), gastroesophageal-reflux and aspiration (8.3%, n=31), tuberculosis (5.1%, n=26), bronchiolitis obliterans (5.3%, n=27), chronic persistant pneumoniae (11.6%, n=59), psychogenic cough (5.3%, n=27), postnasal drip (4.3%, n=22), foreign body aspiration (1%, n=4), Congenital disease (1%, n=5), post-viral cough (1.8%, n=9), chronic tonsilitis (1.4%, n=7), adenoid vegetation (11.6%, n=59).

CONCLUSION: The most common etiologies of chronic cough in this study was asthma, allergic rhinitis, and viral-induced recurrent airway obstruction. This study showed that chronic cough may occur due to different etiologies in childhood.

Keywords: Child, chronic cough, etiology
SS081 [Pediatric Pulmonology]

Seasonal Variation in Vitamin D Levels in Children with Asthma

Şebnem Özdoğan, Gizem Sarı, İbrahim Hakkı Aktan, Belma Aydin, Canan Irmak
Sisli Hamidiye Etfai Research and Training Hospital

PURPOSE: There is no consensus on the association between vitamin D and asthma. In the last few years, there have been few studies showing the association between Vitamin D levels and asthma. We aimed to examine seasonal variation in vitamin D status in children with asthma.

METHODS: We recruited children 8-17 years old diagnosed with asthma. Vitamin D levels (serum hydroxy vitamin D3) were obtained and pulmonary function tests were performed both in winter months (Jan, Feb, and March) and at the end of summer (August, September and October). The seasonal variation of vitamin D levels and lung function were examined.

RESULTS: 56 children with asthma (M: 26, F:30, mean age: 11.9±1.97) were recruited. The mean vitamin D level in winter was 13.36±6.31 ng/ml. There was no significant correlation between vitamin D levels and asthma control and lung function. The mean vitamin D level at the end of summer was increased to 22.89±7.83 ng/ml. It was increased 74.6% in men, 163.7% in women. There was no correlation between vitamin D levels and lung function performed at the end of summer.

CONCLUSION: There is a seasonal and gender variation in vitamin D status in asthmatic children. Vitamin D levels do not correlate with lung function.

Keywords: Vitamin D, seasonal variation, children, asthma
BACKGROUND: Sleep related breathing disorders constitutes a broad spectrum ranging from simple snoring to severe sleep apnea syndrome. Polysomnography (PSG) is the definitive diagnostic test in determining sleep-related problems.

METHODS: Demographic data, pediatric sleep questionnaire, Pittsburgh sleep questionnaire and polysomnography results of 133 patients who had polysomnography in our clinic since March 2012 were evaluated.

RESULTS: The mean age of our patients was 8.5 ± 4.7 years and 71 (53%) were boys. Habitual snoring was reported in 50% and apneic pauses in breathing was reported in 43.7% of patients by families. Mean pediatric sleep questionnaire (PSQ) score was 0.4±0.2 and Pittsburgh sleep questionnaire score was 5.7±3.5. The most frequent indication for polysomnography was habitual snoring and apnea with 41%, followed by chronic lung diseases and skeletal deformities. Polysomnography was normal in 40.8% of patients. PSG revealed mild obstructive sleep apnea (OSA) in 10.4%, moderate OSA in 6.4% and severe OSA in 18.4% and central sleep apnea in 2.4% of cases. Obstructive sleep apnea hypopnea index (OAHI) was significantly higher in patients with habitual snoring (p = 0.023). OAHI correlated positively with PSQ scores (p = 0.016). No correlation was found between Pittsburgh score and OAHI (p = 0.91). Snoring of mother or the father was not significantly related with OAHI (p=0.85, p=0.69). Treatment was started in 39.8% of patients after polysomnography. The most frequent treatments were BiPAP (37.2%), nasal steroids (27.9%) and oxygen supplementation (11.6%).

CONCLUSION: PSG is essential for evaluating, diagnosing and starting the treatment of sleep-related problems.

Keywords: Sleep related breathing disorders, polysomnography, child,
Is surgical plication necessary in diaphragm eventration?

Serdar Özkan¹, Ülkü Yazıcı², Ertan Aydın², Nurettin Karaoğlanoğlu²
¹Siirt State Hospital, Thoracic Surgery Department, Siirt
²Department of Thoracic Surgery, Ataturk Training and Research Hospital for Chest Disease and ChestSurgery, Ankara

Diaphragm plication surgery is conducted to remove dyspnea, which results from mediastinal shift, atelectasia and ventilation/perfusion dyssynchrony in lungs that occur due to an eventrated diaphragm. This study aims to determine whether diaphragm plication has any effect on respiration by analyzing patients’ changing values from the Respiratory Function Test (RFT) following plication surgery.

A total of 16 cases that underwent diaphragm plication surgery in our clinic due to plication eventration or paralysis were examined prospectively. Diaphragm eventration values were calculated by means of a calculation method through PA pulmonary radiographies taken during patient admission and control; then these values were recorded. The amount of changes in the eventration levels and in restrictive respiratory failure parameters (FEV1, FVC) of respiratory function tests conducted in preoperative and postoperative control periods were compared through statistical analysis methods. The compatibility between amounts of RFT changes was examined through satisfaction questionnaires, which consisted of "better-the same-worse" options towards preoperative and postoperative symptom levels in the 12th month of postoperative control.

According to postoperative levels, a decrease between 19-23% was observed in eventration amounts within the first, sixth and twelfth postoperative month. In addition, the highest average increase in FEV1 (lt) values was 0.2 lt and 0.25 in FVC (lt) values.

We believe that more selective decisions should be taken while determining patients for surgery in unilateral diaphragm eventrations and especially in the adult patient group; surgical option should be used for cases in which the eventrated diaphragm results in mediastinal shift and respiratory failure.

Keywords: Diaphragm, Eventration, Paralysis, Plication
OBJECTIVE:
The incidence of bronchiectasis has decreased mainly due to improved medical treatment of respiratory infections. However, bronchiectasis still constitutes an important problem in underdeveloped and developing countries. The surgical treatment of this disease plays an important role in thoracic surgical practice in these countries. The aim of this retrospective study was to present our surgical experience in patients with bronchiectasis.

METHODS:
We have retrospectively analysed the 1273 patients operated on in our hospital with the diagnosis of bronchiectasis between January 1991 and December 2012, with respect to gender, age, etiological factors, symptoms, methods of treatment, surgical results and long-term follow up.

RESULTS:
The study sample included 1273 patients (627 male, 646 female) who underwent 1308 operations for bronchiectasis. Mean patient age was 30.19 (range 3-73 years). Thirty-five patients underwent a second operation for bilateral disease. The most common symptom was cough (1085; 85.23%). Several surgical procedures were used: lobectomy (655; 50.07%), pneumonectomy (175; 13.37%), segment resection (106; 8.1%), bilobectomy (82; 6.26%), lobectomy and segmentectomy (290; 22.17%). There were no postoperative mortality and 128 complications were seen in 122 (9.58%) patients. Follow-up data were obtained for 1225(96.22%) of the patients. The mean follow-up of these patients was 4.3 years (range, 6 months to 10 years). After surgery, 751 (61.3%) patients were asymptomatic, 437 (35.67%) had improved, and 37 (3.02%) showed no improvement or worsened condition.

CONCLUSION:
Surgery is a valuable option in managing bronchiectasis with acceptable morbidity and mortality rates in selected patients.

Keywords: Bronchiectasis, resection, lobectomy, pneumonectomy
The use of Video-Assisted Thoracoscopic Surgery in the treatment of lung Hydatid Cysts

Levent Alpay¹, Tunç Laçin¹, İlhan Ocakçıoğlu², Serdar Evman¹, Mustafa Vayvada¹, Talha Doğruyol¹, Hakan Kiral⁴, Volkan Baysungur¹, İrfan Yalçınkaya¹
¹Süreyyapaşa Training and Research Hospital
²Van Training and Research Hospital

AIM: Comparing the postoperative outcomes between minimally invasive surgery and thoracotomy for treatment of lung hydatid cysts, and to clarify the pros and cons of two approaches.

METHODS: Between January 2011 and January 2013, seventy seven (53 male, 24 female) patients were operated in our clinic for hydatid cyst of the lung. Age, drainage volume, drain removal time, cyst diameter, operation time, cyst count, location of the cysts, days in intensive care unit, the necessity of erythrocyte suspension, complication, discharge time, days narcotic analgesics used and visual analog scale (VAS) score were statistically analyzed in between the two group of patients.

RESULTS: Thoracotomy was carried out in 47 (%61.0) patients, while 30 (%38.9) patients had video-assisted thoracoscopic surgery (VATS). In eight patients (8/38), operation was started with VATS but converted to thoracotomy. The drainage amount, drain removal time, operation time, the appearance of multiple and/or central cysts, days narcotic analgesics were used and VAS scores in thoracotomy group were significantly higher than VATS group (Table 1). Postoperative mortality was not seen in any group. Postoperative complications occurred in 4.3% of thoracotomy and in 13.3% of VATS patients, respectively. In three years of follow-up, no recurrences were seen in any group.

CONCLUSION: With better postoperative patient satisfaction and similar clinical outcome, VATS should be the approach of choice in surgical treatment of such a parasitic disease, especially for single and peripheral lesions of the lung.

Keywords: video-assisted thoracoscopic surgery, hydatid cyst, lung

Table 1: Characteristics of Groups

<table>
<thead>
<tr>
<th></th>
<th>Thoracotomy</th>
<th>VATS</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (year)</td>
<td>33,34±17,47</td>
<td>31,70±12,11</td>
<td>0,654</td>
</tr>
<tr>
<td>Drainage (ml)</td>
<td>422,34±244,02</td>
<td>308,33±217,78</td>
<td>0,041</td>
</tr>
<tr>
<td>Drain removal time (day)</td>
<td>2,95±1,46 (3)</td>
<td>2,20±0,93 (2)</td>
<td>0,031</td>
</tr>
<tr>
<td>Diameter (cm)</td>
<td>6,35±2,69</td>
<td>6,53±3,35</td>
<td>0,791</td>
</tr>
<tr>
<td>Operation time (min)</td>
<td>140,22±43,23</td>
<td>102,67±30,16</td>
<td>&lt;0,001</td>
</tr>
<tr>
<td>Discharge time (day)</td>
<td>4,65±2,16 (4)</td>
<td>4,0±1,46 (4)</td>
<td>0,194</td>
</tr>
<tr>
<td>Days NA used</td>
<td>4,43±0,19 (4)</td>
<td>2,9±0,99 (3)</td>
<td>&lt;0,001</td>
</tr>
<tr>
<td>VAS 1. Hour</td>
<td>8,45±0,86 (8)</td>
<td>7,87±1,01 (8)</td>
<td>0,018</td>
</tr>
<tr>
<td>VAS 24. Hour</td>
<td>6,57±0,90 (6)</td>
<td>4,77±0,94 (5)</td>
<td>&lt;0,001</td>
</tr>
<tr>
<td>VAS 1. Week</td>
<td>5,21±1,37 (5)</td>
<td>2,73±1,39 (2,5)</td>
<td>&lt;0,001</td>
</tr>
<tr>
<td>Cyst count</td>
<td>1</td>
<td>39 (%83)</td>
<td>30 (%100)</td>
</tr>
<tr>
<td></td>
<td>&gt;= 2</td>
<td>8 (%17)</td>
<td>0 (%)</td>
</tr>
<tr>
<td>Peripheral-Central</td>
<td>Peripheral</td>
<td>17 (%37)</td>
<td>24 (%80)</td>
</tr>
<tr>
<td>Location of cyst</td>
<td>Central</td>
<td>Right lower</td>
<td>Right upper</td>
</tr>
<tr>
<td>-----------------</td>
<td>---------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td></td>
<td>30 (%63)</td>
<td>10 (%21,3)</td>
<td>6 (%12,8)</td>
</tr>
<tr>
<td></td>
<td>6 (%20)</td>
<td>6 (%20)</td>
<td>6 (%20)</td>
</tr>
<tr>
<td></td>
<td>&lt;0,001</td>
<td>0,406</td>
<td>0,406</td>
</tr>
</tbody>
</table>

VATS: video-assisted thoracic surgery; VAS: visuel analog scala; NA: narcotic analgesics
**SS086[Thoracic Surgery]**

**Nuss Operation in Patients with Recurrence of Pectus Excavatum after Open surgical Surgery**

Mehmet Bilgin  
Erciyes Univ.

**AIM:** There is possibility of recurrence of deformity in patients with Pectus Excavatum after Ravich operation (Open surgical Surgery). In this study, Nuss operation which is minimal invasive surgery and used in recurring deformities is discussed.

**MATERIAL-METHODS:** Nuss Operation, which is known as minimal invasive surgery in Pectus Excavatum (MIRPE), is being performed in our clinics since 2006. We have performed Nuss Operation in 110 patients between June 2006 and December 2013. Twelve of the patients were operated before with Ravich operation for Pectus Excavatum and recurrence was present. These patients were retrospectively investigated.

**RESULTS:** Of the patients 4 were female and 8 were male and the mean age was 16.2. The earliest recurrence was observed in a 14 years old patient who had Ravich operation three years ago. The mean time of the patient admissions to our clinic was 3.7 years after the first operation. Seven of these cases had their previous operations in our clinics. The remaining 5 patients had their operations in different clinics. In one of the Nuss operations performed on these patients, tension pneumothorax occurred and thoracal tube was inserted. In three patients the operation time was longer due to severe adhesion.

**CONCLUSION:** Nuss operation which is performed in patients with recurrence after Ravich operation should be peevish and more carefully performed than in patients being operated for the first time. Although the number of cases was limited, we decided that Nuss operation performed in Ravich operation recurrences was safer in this series.

**Keywords:** Pectus excavatum, Recurrents Ravich, Nuss operation
Analysis and Comparison of Patient Demographics in 2013 and 2012

Hakan Kiral, Hakan Yilmaz, Serdar Evman, Levent Alpay, Serda Metin, Mustafa Vayvada, Şenol Ürek, Aysun Misirlioğlu, Mine Demir, Cansel Atinkaya, Çağatay Tezel, Volkan Baysungur, İrfan Yalçınkaya
Sureyyapasa Chest Disease and Chest Surgery Education and Research Hospital, Department of Thoracic Surgery Istanbul, TURKEY

OBJECTIVE: Our clinic is one of the highest-volume referral thoracic surgery clinics in our country. With the intention of monitoring the surgical interventions performed in our clinic, data is analyzed retrospectively for procedures, morbidity and mortality rates, and compared with data of previous year.

METHODS: Total of 1440 patients underwent 1692 surgical interventions under general anesthesia between January 2013 and December 2013 in our clinic are taken into study. Demographic data is taken from hospital database and 1-year performance analysis is achieved.

RESULTS: Distribution of procedures are shown in Figure 1. A 12.7% decrease is detected in total number in comparison with previous year. Despite the decrease seen in other (sternotomi, mediastinotomy, laparotomy or minimally invasive pectus deformity correction) operations, number of thoracotomy, mediastinoscopy and video-assisted thoracoscopic surgery (VATS) cases increased in 2013. For resections, there were 276(78%) lobectomies, 3(1%) segmentectomies, 56(16%) pneumonectomies, and 18(5%) sleeve lobectomies performed in 2013; revealing an increase in lobectomy rate but a decrease in pneumonectomy or sleeve resections according to 2012. 15(0.9%) mortalities were seen, with a slight increase as well: 5.3% for pneumonectomy and 2.7% for lobectomy operations. Complications such as bronchopleural fistula (2.8%) and hemorrhage necessitating re-thoracotomy (5.1%) were significantly higher.

CONCLUSION: The annual performance analyses are useful to sort out case spectrum and medical outcomes of a surgical clinic. Data achieved can be explain any trend or alteration in patient demographics or postoperative mortality/morbidity rates within years, and may support in clinical planning with prospective projection.

Keywords: Bronchoscopy, Complication, Mediastinoscopy, Mortality, Thoracotomy, VATS
Dangerous toys of teenagers: air-guns

Hakan Taşkınlar¹, Cankat Erdoğan¹, Doğakan Yiğit¹, Anıl Özgür², Dinçer Avlan¹, Ali Naycı¹
¹Department of Pediatric Surgery, Mersin University, Mersin, Turkey
²Department of Radiology, Mersin University, Mersin, Turkey

INTRODUCTION: Air guns are commonly used for fun (paintball), hunting and gun training. They are easily reachable without any registration and usually accepted as a "toy" by teenagers. Our aim is to highlight the importance and serious hazards of this "toy".

MATERIAL-METHOD: 3 children with the admission of air gun injury to the emergency department between 2013 and 2014 were included in this study.

RESULTS: Findings were shown in the table.

CONCLUSION: Muzzle velocity and tissue penetration ability of new air-guns are almost similar to low calibrated guns which causes serious injuries to the children. Laws about air-guns are need to be revised and these "toys" must be sold with registration and permission as guns.

Keywords: Air-guns, children, injury

<table>
<thead>
<tr>
<th>Case</th>
<th>Age</th>
<th>Gender</th>
<th>Entrance of pellet</th>
<th>Injury</th>
<th>Sign and symptoms</th>
<th>Chest X-Ray and CT</th>
<th>Surgical intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>M</td>
<td>Right scapula</td>
<td>Right lung</td>
<td>Entrance of pellet, subcutaneous emphysema</td>
<td>Pneumothorax, pellet</td>
<td>Tube thoracostomy</td>
</tr>
<tr>
<td>2</td>
<td>11</td>
<td>M</td>
<td>Left 1th ICS</td>
<td>Left lung</td>
<td>Entrance of pellet, subcutaneous emphysema</td>
<td>Pneumothorax, pellet</td>
<td>Tube thoracostomy</td>
</tr>
<tr>
<td>3</td>
<td>10</td>
<td>M</td>
<td>Left 10th ICS</td>
<td>Diaphragm, spleen</td>
<td>Entrance of pellet, acute abdomen</td>
<td>Laceration of spleen, pellet</td>
<td>Laparotomy, splenectomy</td>
</tr>
</tbody>
</table>

Clinical features of cases
SS089 [Thoracic Surgery]

**Idiopathic costochondritis and Seasonality**

Mertay Boran¹, Ertay Boran²
¹Department of Thoracic Surgery, Cankiri Government Hospital, Cankiri, Turkey
²Department Anesthesiology and Reanimation, Katip Celebi University, Ataturk Education and Research Hospital, Izmir, Turkey

**BACKGROUND:** Idiopathic costochondritis (IC) is a little known disease, characterized by anterior chest pain and unclear etiology. Until now, no study has evaluated the seasonal variation of IC. Our aims were to investigate the possibility of seasonal variation for IC and to examine relationship between seasonality and patient demographics.

**METHODS:** Patients with chest pain complaint who have been diagnosed as IC at thoracic surgery outpatient clinic between 2009 and 2013 were prospectively observed. The data of patients were categorized by gender, date of diagnosis, time to diagnosis, history of respiratory tract infection and clinics patients visit until final diagnosis. Seasonality and relationship between seasonality and clinical outcomes were examined.

**RESULTS:** A total of 431 patients with mean age of 40.4±17.1 years and female (58%) predominance (p<0.001) were reviewed. History of respiratory tract infection was positive in 30.4% of patients (p<0.001) and 60.3% of patients have undiagnosed chest pain complaint for a time (p<0.001), although they have been previously evaluated by different specialists. Data by season and months revealed lowest frequency of disease in autumn (21.1%) (p <0.001) and in September (4.2%) (p <0.001, Figure 1). The frequency of women was generally higher than men throughout the year except in winter (p=0.006). Gender differences by mean age (p=0.04) and time to diagnosis (p=0.002, Figure 2) were also detected.

**CONCLUSIONS:** Observation of seasonal pattern of IC may help physicians evaluating patients with acute chest pain and may signify potential relationship between clinical expression of IC and various environmental factors.

**Keywords:** seasons, cartilage diseases, costal chondritis
Figure 1

Distribution of patients with IC over 12 months

Month, p < 0.001
Figure 2

Monthly distribution of patients with IC in relation with median time to diagnosis

Month, p=0.002

*Monthly distribution of patients with IC in relation with median time to diagnosis*
SS090 [Thoracic Surgery]

The Combined Incision Approach to Mediastinal Masses

Mehmet Muhtarrem Erol, Mehmet Ali Çolak, Hüseyin Melek, Ahmet Sami Bayram, Cengiz Gebitekin
Uludağ University, Medical faculty, Department of Thoracic Surgery, Bursa, Turkey

Introduction
Masses arising from the mediastinum are frequently encountered in routine chest surgery. While these masses can be resected with a single incision in most cases, this may sometimes be insufficient, due to the location of the mass or the organ(s) invaded. For example, tumors arising from the anterior mediastinum and extending to the posterior mediastinum, arising from the posterior and extending to anterior structures or arising from the mediastinum and invading the lung may be encountered. Resection with a combination of more than one incision is required in such circumstances.

Materials and Methods
We assessed 7 cases administered simultaneous combined operations in 1998-2014 due to mediastinal mass in terms of diagnosis, type of operation and resection type.

Results
Six patients were male and one female. Mean age was 55.6 (19-70). Diagnoses were Schwannoma, thymic carcinoma, fusiform cell malignant mesenchymal tumor, fibromatosis, yolk sac tumor, thymoma and plunging goiter. Diagnoses, types of operation and resection types are shown in Table 1. Two cases received chemotherapy presurgically, and cases responding to chemotherapy were operated. The first case was fusiform cell malignant mesenchymal tumor and the second thymoma.

Conclusion
When planning surgery for giant/invasive mediastinal masses, the potential need for additional incisions should be considered from the outset and planning performed accordingly. Patient position and equipment must be adequate for both incisions. The surgical team must be prepared for new incisions depending on the situation encountered during surgery.

Keywords: Mediastinum, Surgical, Combined

Table 1

<table>
<thead>
<tr>
<th>Case</th>
<th>Diagnosis</th>
<th>Operation</th>
<th>Resection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Schwannoma</td>
<td>Left Trapdoor + Shaw-Paulson incision</td>
<td>Mass excision</td>
</tr>
<tr>
<td>2</td>
<td>Thymic carcinoma</td>
<td>Median sternotomy + left posterior thoracotomy</td>
<td>Left Pneumonectomy</td>
</tr>
<tr>
<td>3</td>
<td>Fusiform cell</td>
<td>Median sternotomy + left thoracotomy - left</td>
<td>Mass excision</td>
</tr>
<tr>
<td></td>
<td>malign tumor</td>
<td>pneumonectomy</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Fibromatosis</td>
<td>Clamshell incision + left thoracotomy</td>
<td>Mass excision</td>
</tr>
<tr>
<td>5</td>
<td>Yolk sac tumor</td>
<td>Median sternotomy + Right thoracotomy</td>
<td>Mass excision</td>
</tr>
<tr>
<td>6</td>
<td>Thymoma</td>
<td>Median sternotomy + left thoracotomy</td>
<td>Mass excision + Left pleural decortications + Diaphragm resection + Lung wedge</td>
</tr>
<tr>
<td>7</td>
<td>Plunging goiter</td>
<td>Median sternotomy + right thoracotomy</td>
<td>Mass excision</td>
</tr>
</tbody>
</table>
Comparison of CGMS (Continuous glucose monitoring system) with standard OGTT in the diagnosis of Cystic Fibrosis-Related Diabetes (KFİD)

Belma Haliloğlu¹, Yasemin Gökdemir², Zeynep Atay¹, Sayûn Abali¹, Tülay Güran¹, Fazilet Karakoç², Refika Ersu², Bülent Karadağ², Serap Turan¹, Abdullah Bereket¹
¹Department of Pediatric Endocrinology, Marmara University, Istanbul, Turkey
²Department of Pediatric Pulmonology, Marmara University, Istanbul, Turkey

CFRD (Cystic Fibrosis Related Diabetes) is one of the factors associated with worsening clinical status and increased mortality in CF. Continuous glucose monitoring (CGM) has the potential to diagnose glucose abnormalities earlier than oral glucose tolerance test (OGTT). In this study, we aimed to compare CGM vs standard OGTT in determining diabetes and other glucose abnormalities in patients with CF.

44 CF patients (29 Female) who are older than 5 years, who did not have any acute exacerbation for the last three months and no systemic steroid usage underwent OGTT followed by CGM for three days and the results were compared.

The patients were classified according to OGTT categories and the CGM results. CGM results were grouped as hypoglycemia, hyperglycemia and both hypo and hyperglycemia (Table). Although no patient had CFRD with fasting hyperglycemia (FH+), 6 patients were diagnosed with CFRD without fasting hyperglycemia (FH-) by OGTT. In these 6 patients, CGM showed hyperglycemia in 2, hyper and hypoglycemia in 3 and hypoglycemia only in 1 patient. On the other hand, in 26 patients who had normal OGTT, CGM showed hyperglycemia in 7, both hypo and hyperglycemia in 6, and hypoglycemia only in 1 patient. The frequency of hypoglycemia in OGTT was %13.6.

In conclusion, CGM is a useful tool especially to determine hypoglycemia in CF patients which might be missed by OGTT. We suggest that CF patients should be evaluated by CGM especially if they are to be started /or on insulin treatment to detect and prevent hypoglycemia appropriately.

**Keywords:** Cystic fibrosis, Cystic fibrosis related Diabetes, Continuous glucose monitoring system

**Table**

<table>
<thead>
<tr>
<th>OGGT Results</th>
<th>CGMS Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td></td>
</tr>
<tr>
<td>Oral Glucose</td>
<td></td>
</tr>
<tr>
<td>Insulin</td>
<td></td>
</tr>
<tr>
<td>CGMS Results</td>
<td></td>
</tr>
<tr>
<td>Normal</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td></td>
</tr>
</tbody>
</table>

**Comparison of the OGGT and CGMS results in cystic fibrosis patients**
**INTRODUCTION:** Non cystic fibrosis (CF) bronchiectasis (BE) continues to be an issue in developing countries. In these patients, routine sputum culture shows the aerobic culture, and it does not have enough information about the anaerobic load.

**MATERIALS-METHODS:** Eighty-eight patients with undergone flexible bronchoscopy (FB) were enrolled to the study. Laringial mask airway was used for FB and bronchial fluid while maintaining an anaerobic environment was immediately transported to the laboratory.

**RESULTS:** The mean age of the patients was 11 ± 3.4, 53% were men. In the etiology primary ciliary dyskinesia (19%), post-infectious BE (15%), bronchiolitis obliterans (9%), asthma (4%), immunodeficiency (5%), and idiopathic BE (47%) was detected. 57% of the patients had aerobic and/or anaerobic growth. Aerobic growth was seen in 46% of the patients and the most frequently isolated bacteria are S. Pneumonia (27%), H Influenza (11%), P. Auriginosa (5%), M. Catarrhalis (3%) and C. Pneumonia (3%). Anaerobic growth was seen 14.3% of the patients and in the most common bacteria are B. Fragilis (5%), Prevatella (5%), Fusobacterium (2%), Clostridium (3%) and Actinomyces (3%). Two patients were found to be both aerobic and anaerobic growth.

**CONCLUSION:** This is the first study revealed anaerobic load of children with non CF-BE. For a discussion of our results of clinical and microbiological studies were presented.

**Keywords:** Child, bronchiectasis, microbiology
INTRODUCTION: In the literature, there was single study about bronchoscopic findings of children with suppurative lung disease. Airways are divided into five types. In non-Cystic fibrosis (CF) bronchiectasis (BE) of pediatric patients there is no information in the literature on bronchoscopic findings.

MATERIALS-METHODS: From November 2010 to January 2014, 88 patients underwent flexible bronchoscopy (FB) were enrolled to the study. FB findings classified as Type1: Mucosal inflammation - anomaly, Type2: Broncomalasia, Type3: obliteration similar situations, Type4: Malasia and obliteration similar situations, Type 5: normal bronchoscopic findings... In addition to the literature mentioned in Type1 and Type2, which is the case with Type6 was recorded by us. Secretions of patients with conditions; transparent secretions, purulent secretions and mucus plugs together with a busy purulent secretions were divided into 3 groups.

RESULTS: The mean age of the patients was 11 ± 3.4, 53% were male. In the etiology of primary ciliary dyskinesia, 19%, 15% post-infectious BE, bronchiolitis obliterans 9%, and 47% idiopathic BE was detected. Patients bronchoscopy results distribution of Type 1 (37.5%), type 2 (6.8%), type 3 (4.5%), type 4 (1.1%), type 5 (29.5%), type 6 (20.4 %), respectively. Transparent secretion in 26 % of patients, 10% of purulent secretions, mucus plugs in 67%.

CONCLUSION: Our study is the first study on the subject. Recognizing be'l children bronchoscopy results of identification will be useful in the standardization.

Keywords: Bronchoscopy, bronchiectasis, child
Diagnostic efficiency of sweat conductivity testing in cystic fibrosis

Tuncay Seyrekel¹, Yasemin Gökdemir², Pınar Özdemir¹, Fazilet Karakoç², Refika Ersu², Bülent Karadağ², Gonca Haklar¹
¹Department of Biochemistry, Marmara University Medical Faculty, Istanbul, Turkey
²Department of Pediatric Pulmonology, Marmara University Medical Faculty, Istanbul, Turkey

Cystic fibrosis (CF) diagnosis is based on the presence of clinical phenotypic features of the disease and the evidence of cystic fibrosis transmembrane regulator (CFTR) dysfunction. The dysfunctional CFTR can be demonstrated by identification of mutations of the CF gene or elevated sweat chloride concentrations. The measurement of sweat conductivity is an alternative method as it is easier to perform and requires a smaller sample volume. Our aim was to assess the diagnostic efficiency of sweat conductivity values and compare it with sweat chloride concentration measurements.

A total of 188 cases (74 CF and 114 controls) were enrolled. Sweat was collected either with quantitative pilocarpine iontophoresis (QPI) by Gibson-Cooke method followed by chloride concentration measurement by manual titration according to Schales & Schales, or by Macroduct coil system followed either by titrimetric chloride measurement by Sherwood Chloridometer or conductivity measurement by a coulometric end point method (CF∆Collection System, UTSAT/Turkey).

In the ROC analysis drawn on the basis that chloride concentration values <40mEq/L exclude the CF diagnosis, Sherwood Chloridometer measurements resulted in 91% sensitivity and 99% specificity for a cut-off value of 60mmol/L (AUC: 0.986; %95% CI: 0.965-1.007; p<0.001). Likewise, conductivity measurements resulted in 92% sensitivity and 100% specificity for a cut-off value of 58.05mmol/L (AUC: 0.994; %95% CI: 0.986-1.002; p<0.001).

In conclusion, our study suggests that conductivity might be as reliable as quantitative sweat chloride analysis to diagnose or exclude CF, and thus its potential as a definitive diagnostic tool for CF should be considered.

Keywords: Cystic fibrosis, Sweat test, Conductivity testing
Exhaled nitric oxide levels of non cystic fibrosis patients: Compared according to the etiologies

Ahmet Hakan Gedik¹, Erkan Cakır¹, Mine Yuksel², Ozdinc Acarlı², Gülsum Guzel², Feyza Ustabas Kahraman²
¹Division of Pediatric Pulmonology, Bezmialem Vakif University, Istanbul, Turkey
²Department of Pediatrics, Bezmialem Vakif University Faculty of Medicine, Istanbul, Turkey

Introduction and AIM: Non-cystic fibrosis (nCF) bronchiectasis (BE) may occur due to different etiologies. No uncertainty exists on the patients’ diagnoses, if any etiology or primary ciliary dyskinesia (PCD) with situs inversus totalis (SIT) are determined. It is being more difficult to diagnose PCD when cilia observations can’t be made and are classified as idiopathic. Exhaled Nitric oxide (exNO) are usually measured lower in bronchiectasis especially in PCD. This study aimed to consider exNO levels of the BE patients and to evaluate whether exNO is an applicable test for patients who have probable-PCD (pPCD) in idiopathic group or not.

METHOD: Between November 2010-January 2014, over 6-years-old patients being admitted to our clinic with nCF BE and performed the test (n=74) and 63 healthy controls included to the study. The number of patients with PCD and specific etiologies were 12 and 23, respectively. The patients whose complaints started in the 6 months of their life, had chronic rhinorhea, frequent sinusitis and otitis, had no other etiologies were included in pPCD group (n=18). Others were classified as idiopathic (n=21).

RESULTS: No statistically different exNO levels were found between total bronchiectasis patients, idiopathic and control group (p>0.05). ExNO levels of PCD, pPCD and idiopathic group were 10.4±2.7, 11.2±3.6, 15.8±7.9 ppb, respectively. Statistically significant difference between PCD and control group (p=0.04) and pPCD and control group (p=0.04) were determined.

CONCLUSION: exNO may be an applicable test for probable PCD patients when cilia observations could not be made.

Keywords: Nitric oxide, child, bronchiectasis
The evaluation of 108 adult cystic fibrosis cases followed in our pediatric chest disease department

Nagehan Emiralioglu, Uğur Özçelik, Burçin Beken, Ebru Yalçın, Deniz Doğru Ersöz, Nural Kiper
Pediatric Pulmonology Department, Hacettepe University Faculty of Medicine, Ankara, Turkey

INTRODUCTION:
Cystic fibrosis (CF) is the most common lethal genetic disease in white populations and historically been diagnosed in early childhood. However, a number of patients with milder symptoms may escape detection in childhood and are not diagnosed with CF until adulthood. Although a multisystem disease, most of the morbidity and mortality in patients with CF is a result of severe lung disease and respiratory failure.

OBJECTIVE:
We want to evaluate CF patients over the age of eighteen followed in Hacettepe University pediatric chest disease department with clinical and radiological findings.

DESIGN:
The CF patients over the age of eighteen followed in Hacettepe University pediatric chest disease department in last five years were evaluated for clinical, radiological, spirometric findings, sputum analysis and echocardiographic assessments. Also patients diagnosed with liver disease, diabetes, allergic bronchopulmonary aspergillosis (ABPA) were assessed.

RESULTS:
We follow 108 CF patients over the age of eighteen in our chest disease department. The mean age of patients was 23.5, and the oldest patient was 39 years old. Eight of these patients were diagnosed after the age of eighteen. Two patients died due to respiratory failure. 81(78.6) of patients were diagnosed with bronchiectasis, 44(43.1) of patients were diagnosed with liver disease, 7(6.8) of patients were diagnosed with renal disease, 5(4.9) of patients were diagnosed with pulmonary hypertension. Also 12 patients with diabetes, 4 patients with atypical mycobacterium infection and 12 patients with ABPA were evaluated. Lung transplantation was performed to two patients.

CONCLUSION:
CF as a multisystemic disease in childhood and adults should be follow up with a good team.

Keywords: Cystic fibrosis, adult, bronchiectasis
Evaluation of HIV Positive 31 Patients With Respiratory Symptoms

Tülin Yılmaz Kuyucu, Evin Makas, Lale Dağıyıldızı Sertçelik, Emine Nur Koç, Emine Nilgün Ordu
İstanbul Sureyyapasa Chest Diseases and Thoracic Surgery Education and Research Hospital

The opportunistic infections in HIV positive patients are sometimes encountered when the first diagnosis is made and sometimes at later stages of the disease. We present the properties of HIV positive patients in a chest diseases hospital.

MATERIALS-METHODS: 31 patients who were diagnosed HIV positive at Sureyyapasa Chest Diseases and Thoracic Surgery Education & Research Hospital between January 2008- December 2013 were evaluated retrospectively. The patients demographic characteristics, respiratory symptoms, the reasons of HIV testing, laboratory and radiologic signs, diagnostic properties & treatments were studied.

RESULTS: The mean age of 31 patients (26 male, 5 female) was 44±4 (24-31). 22 (%70.9) of the patients were newly diagnosed as HIV positive in hospital. HIV testing was made because of following reasons: 13 patients (%41.9) were suspected as pneumocystis carini pneumonia (PJP), 3 were tuberculosis and 6 patients with routine evaluation. Only 1 patient was taking retroviral therapy. 9 (%29) of them were admitted to intensive care unit. PJP was the initial diagnosis in patients with bilateral infiltrations, thin walled cysts and ground glass opacities at CT & HRCT, and appropriate clinical signs. In 1 patient the exact PJP diagnosis was made. Trimethoprim-sulphamethoxazole treatment was given to 16 patients. 2 of patients had pneumothorax and were died. 6 patients (%19.3) were bacteriologic/pathologically, 2 were clinical and radiologically diagnosed as tuberculosis and treatment was given.

CONCLUSION: In patients with respiratory symptoms and suspected lesions at thorax CT/HRCT for PJP HIV test should be done earlier. In conditions which etiologic diagnosis takes time, detailed radiologic evaluation will render appropriate therapy possible.

Keywords: HIV, lung, PJP, tuberculosis
A New Biomarker For Determining the Transition To Consecutive Treatment In Community-Acquired Pneumonia: NT-proBNP

Ayşe Baha¹, Sakine Nazik Bahçecioğlu², Ayşe Tuncel Bahar³, Nurdan Köktürk¹, Hatice Paşaoğlu³, Numan Ekim¹

¹Gazi University Faculty of Medicine, Department of Pulmonary Medicine, Ankara
²Atatürk Chest Disease and Chest Surgery Training and Research Hospital, Pulmonary Medicine,
³Gazi University Faculty of Medicine, Department of Biochemistry, Ankara

PURPOSE: Transitioning into consecutive treatment in community-acquired pneumonia (CAP) is not always an easy decision to make. Complications that can be faced with the prolonging of intravenous therapy and cost is one aspect of this dilemma while failure of treatment due to early oral treatment commencement and the risk of recurrence is the other. Therefore we often require parameters to guide us in achieving maximum benefit with minimum invasive procedures and hospital stay. This study has been planned to investigate the effectiveness of NT-proBNP in determining the transition to consecutive treatment in community-acquired pneumonia.

METHODS: This prospective study consisted of 22 patients that were hospitalized with CAP diagnosis between June 2012 and January 2013. NT-proBNP and routine infectious parameters (CRP, sedimentation, procalcitonine, leukocyte) were obtained on both the first day of hospitalization and the day of oral treatment initiation. Patients who started oral treatment on the sixth day or before (early recovery group: ERG) and those who started after the sixth day (late recovery group: LRG) were compared to determine significance in parameters.

RESULTS: Seventeen patients were male (77.3%) while five were female (22.7%). There was a significant difference regarding NT-proBNP, CRP, sedimentation, procalcitonine, and leukocyte between the two groups. When a ROC analysis was conducted for these variables, it was noted that NT-proBNP (AUC: 0.929, 95% CI: 0.735-0.991), procalcitonine (AUC: 0.824, 95% CI: 0.603-0.950), PaO2 (AUC: 0.765, 95% CI: 0.538-0.916), and SO2 (AUC: 0.812, 95% CI: 0.590-0.944) have diagnostic value in determining transition into consecutive treatment after the 6th day. When a stepwise regression analysis was conducted for age, disease type (typical/atypical pneumonia), CURB-65, SPO2, PaO2, procalcitonine, and NT-proBNP, it was determined that procalcitonine (p = 0.031) and NT-proBNP (p = 0.048) were statistically significant.

CONCLUSION: This study is the first to investigate the effectiveness of NT-proBNP in determining the transition to consecutive treatment in CAP and has shown promising results. Further large-scale studies are needed to determine the extent of its effectiveness.

Keywords: Community Acquired Pneumonia, Switch Therapy, NT-proBNP
ROC curve

ROC curve for NT-proBNP, Procalcitonin, oxygen saturation, partial oxygen pressure

<table>
<thead>
<tr>
<th></th>
<th>AUC</th>
<th>SE</th>
<th>95% CI</th>
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</thead>
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<td>NT-proBNP</td>
<td>0.929</td>
<td>0.083</td>
<td>0.735 - 0.991</td>
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<tr>
<td>Procalcitonin</td>
<td>0.824</td>
<td>0.123</td>
<td>0.603 - 0.950</td>
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<tr>
<td>SPO2</td>
<td>0.812</td>
<td>0.098</td>
<td>0.590 - 0.944</td>
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<tr>
<td>PaO2</td>
<td>0.765</td>
<td>0.111</td>
<td>0.538 - 0.916</td>
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</table>
Serum Procalcitonin and C-Reactive Protein Levels as Indicators of Treatment Success in Patients with Community-Acquired Pneumonia

Mehmet Sezai Taşbakan¹, Canan Gündüz¹, Abdullah Sayıner¹, Aykut Çilli², Burcu Çelenk², Ayşin Şakar³, Feride Durmaz³
¹Ege University, Faculty of Medicine, Department of Chest Diseases, Izmir
²Akdeniz University, Faculty of Medicine, Department of Chest Diseases, Antalya
³Celal Bayar University, Faculty of Medicine, Department of Chest Diseases, Manisa

Fever, leukocyte count, CRP and procalcitonin (PCT) levels are used in the follow-up of patients with community-acquired pneumonia (CAP). The aim of this study was to determine the prognostic value of these parameters. Thus, data of patients who had been admitted to the hospital and who had been registered to the TTS Pneumonia Database were retrospectively evaluated. For each parameter, the values recorded at baseline and on days 3-5 (D3-5) were retrieved for analysis. Treatment failure was defined as death or use of a different antibiotic regimen within 30 days.

103 hospitalized CAP patients (57 males, mean age 61.5 ± 16.7) were included in the study. Treatment failure in 20 patients (19.4%) was observed. Pneumonia severity index (PSI), CRP and PCT levels were found significantly higher in the treatment failure group at admission. A baseline CRP level of <17.5 mg/dl was found to predict treatment success with sensitivity and specificity of 78.8% and 59.7%. A fall in CRP level on D3-5 by 50% predicted treatment success with sensitivity and specificity of 82.4% and 41.2%. These values were 71.4% and 69.6% for a baseline PCT level of <2 ng/dl and 91.7% and 54.5% for a decrease of >30% on D3-5. No cut-off value for baseline fever or leukocyte count was found that would predict treatment success.

When areas below ROC curves for all these parameters were examined, the parameters that would best predict treatment success were CRP ve PCT levels at admission and a decrease in PCT levels at D3-5.

Keywords: C-Reactive protein, Procalcitonin, Pneumonia
Colistin Therapy for Nosocomial Pneumonia and its Effect on Prognosis; Multicenter Study

Pervin Korkmaz Ekren1, Nur Töreyin1, Huriye Berk Takır2, Merih Kalamanoğlu Balcı4, Ümmügülsüm Gaygısız7, Gül Gürsel3, Begüm Ergan Arsava4, Aslıhan Yalçın5, Cüneyt Saltürk7, Müge Aydoğdu3, Recai Ergün4, Pınar Güven1, Gaye Ulubay6, Aslıhan Gürün Kaya7, Hatice Uluer1, Feza Baçakoğlu1, Abdullah Sayiner1
1Department of Chest Diseases, Ege University, Izmir, Turkey
2Sureyyapasa Chest Diseases and Thoracic Surgery Education and Research Hospital, Istanbul, Turkey
3Department of Chest Diseases and Intensive Care Unit, Gazi University, Ankara, Turkey
4Dışkapı Yıldırım Beyazıt Education and Research Hospital, Ankara, Turkey
5Department of Chest Diseases and Intensive Care Unit, Marmara University, Istanbul, Turkey
6Department of Chest Diseases, Baskent University, Ankara, Turkey
7Department of Chest Diseases, Ankara University, Ankara, Turkey
8Department of Biostatistics and Medical Informatics, Ege University, Izmir, Turkey

Colistin is used for treatment of multidrug-resistant (MDR) Gram-negative pathogens. Its most important side effect is nephrotoxicity. This retrospective multicenter study evaluated the development of nephrotoxicity due to colistin and the effect of nephrotoxicity on prognosis. We evaluated 281 patients from 7 centers (median age 71 years, 61.9% male) who received colistimethate sodium for nosocomial pneumonia (NP) caused by MDR Pseudomonas and Acinetobacter spp.. The demographic features of the patients; clinical and laboratory characteristics, nephrotoxicity and prognostic parameters were recorded.

Fifty-eight patients were treated with Colomycin (Forest Lab., UK) and 223 received Colimycin (Kaçak Pharma, TR). The clinical, bacteriological response and mortality rates were 52%, 45.6%, 61.6%, respectively. The durations of stay in the intensive care unit (ICU) and in the hospital were 27.5 (0-132) days and 34 (9-141) days. Nephrotoxicity developed in 175 patients (62.3%) and the mortality rate was higher in these patients (66.9% and 52.8%, p=0.022). The clinical and bacteriological response rates, lengths of stay in the ICU and in the hospital were similar in patients treated with the two colistin brands. However, nephrotoxicity rate was higher in patients who received Colimycin (41.4% & 67.7%, p<0.001). Logistic regression analysis showed that use of Colimycin and the presence of bacteremia were independent risk factors for nephrotoxicity (p=0.003, OR:4.39; p=0.046, OR:3.42 respectively). The lack of clinical response and presence of septic shock were independent risk factors for mortality (p<0.001, OR:10.54; p=0.035, OR:2.18 respectively).

In conclusion; NP caused by MDR Gram-negative pathogens could be treated successfully with colistin but this was associated with high rate of nephrotoxicity.

Keywords: Colistin, multidrug-resistant Gram-negative pathogens, nephrotoxicity
Mortality Rate Due to Respiratory Diseases in Turkey in 2012 and Differences according to Cities

Sedat Altın¹, Edhem Ünver¹, Seda Tural Önür², Kaan Kara², Nihal Geniş²
¹Erzincan University Medical Faculty, Erzincan
²Yedikule Chest Diseases and Chest Surgery Education and Training Hospital

AIM: In recent years, both the number of patients with respiratory diseases and the mortality rate are ever increasing in our country. In this study we aimed to investigate the mortality rate and the differences according to the cities in 2012.

Material & METHOD: Calculations had been made taking into account of Mortality Causes Study of Turkish Statistical Institute and GARD publications of Ministry of Health.

FINDINGS: In 2012, general mortality rate was calculated as per mille 4.26 while the mortality rate due to respiratory system diseases 41.02 in 100.000. 53.079 (16.54%) patients of 320.967 whose cause of death known were because of respiratory system diseases in 2012. Kastamonu, Çankırı, Bartın, Çanakkale and Edirne are the cities that general mortality rate is higher, mortality due to respiratory system diseases is found 2 times higher than the Turkey average in Bartın, Kastamonu, Zonguldak, Ardahan, Uşak, Afyonkarahisar. On the other hand, Van (9.12%), Hakkari(10.72%), Bitlis (13.64%), Şırnak(15.85%) and Ağrı (16.11%) were the cities that the mortality rate due to respiratory system diseases found at least.

CONCLUSION: In the cities which elderly population is over and the air polution is too much because of coal mine, the mortality rate due to respiratory system diseases had been found very high.

Keywords: Mortality rate, respiratory diseases, results of cities
Evaluation of the Patients Referred for the Chest Diseases Consultation

Funda Uluorman, Ayşe Dallı, Sibel Öktem Ayık, İpek Çoşkunol, Zehra Canan Kaçar, Aydın İlker Alp, Melek Çekiç
Department of Pulmonary Disease, İzmir Katip Çelebi University Atatürk Education and Research Hospital, İzmir, Turkey

In this study, we aimed to examine the pulmonary consultation evaluated in a period of 3 months, in 1100-bed district hospital. This study evaluated retrospective, in 936 patients of 1353 who follow up in inpatient service or refer to the emergency room in August-November 2013. Outpatient clinic consultations were not included. Most units that want consultation was the emergency room service, in second was the internal medicine, the general surgery and orthopedic clinics was in third. The most common reason for consultation required was diagnostic support (425 - % 45), pre-operative evaluation was in second row. In % 34 of the consultations (340 patient), reason for consultation is preliminary diagnosis of pneumonia was observed. When we look at the our diagnoses, pneumonia was the most common. When we evaluate all of the consultations, % 23 of patients (216), there was no pulmoner pathology. The patients who examine in consultations, the most symptom was dyspnea. 251 of the 285 (%88) pre-operative pulmonary evaluation have the operation permission. After pre-operative pulmonary evaluation 62 of the 285 patients (%21) don't get the operation. In spite of all of the assessment was done, consultation is finished and get permission for the operation, 42 of this 62 (%67) patients’ operation was not performed. This shows us there is loss of work time. Pulmonary Diseases is one of the department that a lot of consultation is wanted. But this consultations especially who are unnecessary bring up too much loss of work.

Keywords: Pulmonary disease, consultation, loss of work

Distribution of Departments that Request Consultation

<table>
<thead>
<tr>
<th>Department that request consultation</th>
<th>Patients Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Room</td>
<td>186</td>
<td>% 19,9</td>
</tr>
<tr>
<td>Internal Disease</td>
<td>105</td>
<td>%11,2</td>
</tr>
<tr>
<td>Orthopedics</td>
<td>91</td>
<td>% 9,7</td>
</tr>
<tr>
<td>General Surgery</td>
<td>91</td>
<td>% 9,7</td>
</tr>
</tbody>
</table>

Distribution of why the consultation required

<table>
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<th>Reasons of Consultations Requested</th>
<th>Patient Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnostic Support</td>
<td>426</td>
<td>% 45,5</td>
</tr>
<tr>
<td>Pre-operative</td>
<td>285</td>
<td>% 30,4</td>
</tr>
<tr>
<td>Treatment Suggestion</td>
<td>177</td>
<td>% 18,9</td>
</tr>
<tr>
<td>Radiological Findings</td>
<td>19</td>
<td>% 2</td>
</tr>
</tbody>
</table>
The Determinating Method on the number of pulmonology resident- method of reductio ad absurdum

Sedat Altın¹, Sinem Sökücü², Edhem Ünver¹, Atilla Uysal²
¹Erzincan University Medical Faculty, Erzincan
²Yedikule Chest Diseases and Chest Surgery Education and Training Hospital

AIM: To calculate the needed fellow numbers due to oportunities of the educational institutions that give pulmonology training to reach 3000 pulmonologist target in year 2023.

Material-
METHOD: Specialist and fellow numbers were determined by arithmetical calculations evaluating 2012 statistical data and considering Fellow Training data from Turkish Chest Disease Competence Committee. Three main parameters were used in calculations: in regard to Chest Disease Specialty Training program had completed minimum 3000 polyclinic, followed up 700 hospitalised patient, and had at least 5 beds per fellow in university or 15 beds per fellow in training hospitals. In regard to these criteria, necessary numbers of specialists and fellows were determined due to capacity of the center.

RESULTS: By the year 2012, 53 university clinic and 7 training hospital have been training 355 fellows with 414 trainers. 118 of the fellows that were in the training hospitals have been training by 140 specialists, 237 of the fellows that were in the university have been training by 274 faculty members. As a total 1,2 trainers per fellow could be calculated from these numbers. 112,076 patient were treated as inpatient in 2823 bed, 1264 of the beds were in university clinics and 1559 of them were in training-research hospital, and 1,313,110 patient were treated as outpatient in the year 2012. Work load per fellow in terms of inpatient and outpatient number was found to be 54% more in training-research hospitals. Although an accurate number could not be reached for interventional procedures, it could be proposed that there is an increased number of procedures for the fellows working in training-research hospitals in regard to patient overload. It was observed that some of the foundation and peripheral universities due not fullfill the criteria. Also, some of the university clinics have more fellows then their clinical potential. On the other hand, although they have potential trainers and also required number of patients, training-education hospitals have less number of fellows then they should have. As a result of these calculations 197 fellows in training and research hospitals and 402 fellows in the university clinics could complete their trainings successfully.

CONCLUSION: Considering the applications written in the fellow report card by the Turkish Chest Disease Competence Committee which should be completed, 599 fellow can be employed. When fellows are employed, institutions facilities, presence of sufficient number of faculty member, and patient potential should be taken into consideration.

Keywords: pulmonology resident, educational institution, sufficiency
In this study, we aimed to investigate the reasons of referring of patients from secondary health care units to university hospital for hospitalization in Manisa and results of their treatment. Patients referred to Celal Bayar university hospital from secondary health care units for hospitalization in Manisa between January 2011 and December 2013 were included to the study retrospectively. The data of hospitalized patients like social demographic findings, referring reasons, clinical findings, and treatment results were recorded.

837 patients were included. Mean age was 54.1±13.8 year and 59.4% were male. Most commonly referring reasons were complex diseases, technical insufficiency and lack of room. The diseases of referred patients were respiratory insufficiency, COPD, pulmonary embolism, interstitial lung diseases, difficult asthma, pneumonia, solitary pulmonary nodules, and tuberculosis. The nonpulmonary diseases were heart failure, acute and chronic renal failure, cerebrovascular accidents, Parkinson, dementia, Alzheimer, DM, and coronary heart disease. 19.4% of patients needed hospitalization in intensive care unit. Definite diagnosis was done in 97.5% of patients. Mortality rate was 17.4% in these referred patients. Most common reasons of mortality were COPD, pneumonia, cerebrovascular accidents, renal failure, and heart failure. When the reasons of referring and technical support of hospitals take into consideration only 1.3% of referring was wrong. Only 39 referred patients were not accepted during this three years and the only reason of this was lack of room.

As a result, Referring of patients from secondary health care to university hospital in Manisa was accurate and totally correct.

**Keywords:** secondary health care unit, referring, tertiary care hospital
Investigation Of Smoking Behaviours And The Presence of COPD In A Prison

Muzaffer Onur Turan¹, Pakize Ayşe Turan²
¹Bolvadin State Hospital, Department of Chest diseases, Afyon, Turkey
²Afyon State Hospital, Department of Chest diseases, Afyon, Turkey

INTRODUCTION: Smoking and second hand smoke (SHS) are frequently seen in prisons.

MATERIAL-METHODS: This study included prisoners and staff in Bolvadin Closed and Open Prison. All volunteers underwent standard spirometry (PFT). Demographic variables were recorded and a questionnaire about smoking behaviours was performed.

RESULTS: 179 volunteers with 109 prisoners and 70 prison stuff were included. Mean FEV1 value was found as 3.68±0.80(%93.9±15.1),FVC value as 3.87±0.83(83.1±14.3) and FEV1/FVC as 98.4±19.6. 18 inmates and 2 prison stuff had the diagnosis of COPD; 22 prisoners(20.2%) and 4 stuff(5.7%) had COPD. There were 123 smokers(68.7%), 26 ex-smokers(14.5%) and 30 non-smokers(16.8%). There was an rise of cigarette smoking in 41.8% of inmates (the most seen reason: stress), no change in 39.6% and decrease in 18.7% (the most seen reason: health problems). 89.4% of participants told that they were exposed to SHS in prison. There were pulmonary symptoms in 49.2% of volunteers; they were statistically high in smokers compared with non-smokers and ex-smokers(p=0.000). There was a statistically significant relationship between exposure to SHS and presence of COPD(p=0.043), and pulmonary symptoms(p=0.008). 78% of active smokers were thinking about quitting. The support about closed area restrictions of smoking was 88.3% and law of smoking ban was 93.9%. The number of cigarettes smoked per day was statistically significantly higher in prisoners with COPD(p=0.05).

DISCUSSION: The frequency of smoking and SHS in prison was considerably high. The restriction of smoking areas and the existence of non-smoking wards in prisons may reduce it. The rate of COPD was found also high. Therefore, typical symptoms about COPD should be examined carefully and routine screening of prisoners with PFT about COPD should be considered.

Keywords: prison, smoking, COPD
Investigation of The Effects of Nicotine Dependence Levels on Quality of Life and Depressive Symptoms

Betül Taşpınar, Ferruh Taşpınar, Cihan Caner Aksoy, Canan Gül, Emrah Afşar
Department of Physiotherapy and Rehabilitation School of Health Science Dumlupinar University

OBJECTIVE: The aim of the study is investigation of the effects of nicotine dependence levels on quality of life and depressive symptoms.

MATERIAL-METHOD: Eighty five smoker subjects were included in the study. Twelve subjects were excluded because of missing data and other reasons. Eventually, the study was completed with 73 (mean age 33.55±11.09 years) subjects. Fagerström Test for Nicotine Dependence (FTND), Nottingham Health Profile (NHP) and Beck Depression Inventory (BDI) were used for the levels of nicotine dependence, quality of life and depression symptoms, respectively. The subjects were divided into three groups according to the nicotine dependence levels and classified as mild, moderate and severe nicotine dependence. The resulting data were analyzed with Kruskal-Wallis test.

RESULTS: Three groups were created according to the nicotine dependence levels and there were twenty two subjects in the mild group, thirty subject in the moderate group and twenty one subject in the severe group. According to mild, moderate and severe nicotine dependence levels NSP scores were 65.75±50.18, 101.47±73.40, 219.78±161.43 and BDI scores were 7.64±6.20, 9.53±7.82, 16.10±10.46. Statistically significant difference between the groups was found.

CONCLUSION: The results of the study were showed that when nicotine dependence level increase, quality of life and mood of individuals are affected, negatively. We thought that in addition to the physical problems due to smoking to protect from depression and provide better quality of life, smoking cessation programs should be increase and level of public awareness should be improved especially with tools such as the media.

Keywords: Smoking, Nicotine Dependence, Quality of Life, Depression
SS107[Tobacco Control]

Assessment of Smoke-Free Compliance in Enclosed Spaces of Hospitality Establishments in Istanbul

Pınar Ay¹, Efza Evrengil², Murat Güner², Elif Dağlı²
¹Marmara University Department of Public Health
²Health Institute

In Turkey smoking in all indoor workplaces and public places is banned since July 2009 with the Law. The aim of this study is to determine the compliance to the smoke-free law in enclosed spaces of hospitality establishments in Istanbul.

The study was designed as a cross-sectional survey. Four districts where hospitality establishments were common were determined as the study area.

A total of 450 establishments were observed in 30 clusters. Restaurants and cafes constituted the majority of the observed establishments. Of all, 184 (40.9%) establishments had open terraces and 159 (35.3%) had extensions with removable panels. Among all the observed establishments, only 298 (66.2%) had no-smoking signs. Of the 298 signs, 105 (35.2%) were appropriate in terms of their size and content.

Consumption of cigarettes was directly observed in 155 (34.4%) of the establishments. Cigarette butts were detected in 89 (19.8%) establishments. Existence of ashtrays and ashtray substitutes were documented in 169 (37.6%) and 23 (5.1%) establishments, respectively. When ashtrays and cigarette butts were considered as violation, then the total rate of smoke-free violation increased to 49.5%.

Smoke-free violations in enclosed spaces of hospitality establishments are alarmingly high. Violations are significantly higher at establishments featuring extensions with removable panels and ventilation systems, and at those which predominantly cater to younger clients, all indicating an organized trend of smoke-free violation.

**Keywords:** Smoke-free, implementation, violation, hospitality premises
Shadow reporting on compliance to tobacco advertisement bans at points of sale in Turkey

Efza Evrengil1, Ttd Gölge Raporlama Grubu2
1Health Institute
2Turkish Thoracic Society

Points of sale (PoS) are tobacco industry’s last stronghold for communication with the youth and target groups. The WHO FCTC recommends a total ban on display and visibility of tobacco products at PoS. Turkey has adopted legislation that only partially bans PoS displays.

AIM: Concerned about the recent increase in consumption, Turkish health NGOs joined forces to investigate this critical policy question.

METHODS: Shadow reporting techniques were utilized to survey compliance in 7 cities during Jan-Feb 2013.

RESULTS: Out of 58 retailers surveyed, tobacco displays of 56% were visible from outside the shops, 28% were located in more than one area, 20% were accessible by customers, 22% featured advertising, 13% displayed packs by hiding pictorial warnings, and price tags at 60% did not comply with legislation. Only 1.5% of shops had fronts of display units covered.

CONCLUSION: Noncompliance increased in comparison to a 2011 study which found visibility of products from outside as 44%. Partial bans cause ambiguity in implementation and are difficult to enforce. Given these problems and lack of official data, shadow reporting is a beneficial independent assessment method and advocacy tool. A complete ban is an essential tobacco control policy as it obliterates tobacco industry’s ability to use PoS as advertisement and promotion venues and has a direct bearing on increasing the effectiveness of demand side policies.

Keywords: Point of sales, tobacco advertising, ad ban
Detection of blood IP-10 level in diagnosis latent tuberculosis in immunocompromised patients: An analysis performed on chronic renal failure patients

Gülşah Günlüoğlu¹, Ekrem Cengiz Seyhan², Rüneyza Kazancıoğlu³, Zeki Günlüoğlu⁴, Nurdan Veske¹, Esra Yazar¹, Sedat Altın¹
¹Yedikule Teaching Hospital for Chest Diseases and Thoracic Surgery, Istanbul, Turkey
²Medipol University, Chest Disease, Istanbul, Turkey
³T.C. Bezmialem Vakif University, Nephrology, Istanbul, Türkiye
⁴Medipol University, Thoracic Surgery, Istanbul, Turkey

Objective
Patients who undergo hemodialysis due to chronic renal failure (CRF-HD) are immunocompromised and are at risk with respect to Latent tuberculosis infection (LTBI). In this study, the effectiveness of blood IP-10 level in diagnosing LTBI in CRF-HD patients was analyzed.

Patients and Method
The study was performed on 50 CRF-HD patients. Interferon-gamma release assay (IGRA) was done using QuantiFERON G-In-Tube (QFG-IT) system. Blood IP-10 level was found as measuring its level in the QFG-IT tubes. Tuberculin Skin Test (TST) was performed on the same day. The test results were analyzed comparatively.

Results
TST, positive in 36.4% of the patients and QFG-IT in 54% of them. There was a moderate correlation between the results of TST and QFG-IT (p=0.002). After stimulation with specific TB antigens, blood IP-10 level increased noticeably in all patients (p=0.0001). The mean IP-10 level was 37233.3 pg/mL in the patients one of whose TST or QFT-G-IT results was positive and 1682.5 pg/mL in the others and the difference between them was significant (p=0.0001). When 10500 pg/mL IP-10 level is used as threshold in stimulated blood, a full accord occurred between the IP-10 result and the QFG-IT result (kappa=1).

Conclusion
In CRF-HD patients, LTBI can be diagnosed in more patients when IP-10 measurement is used than TST. The IP-10 level, which can be measured with an easier procedure than to perform an IGRA may provide equivalent results to those of QFG-IT in the diagnosis of LTBI in CRF-HD patients.

Keywords: Latent tuberculosis infection, chronic renal failure, IP-10
SS111[Tuberculosis]

Diversities between pediatric extra-pulmonary and pulmonary tuberculosis: a warning sign for the future

İlker Devrim¹, Hüseyin Aktürk¹, Nuri Bayram¹, Hurşıt Apa¹, Şener Tulumoğlu², Fatma Devrim⁴, Tülin Erdem³, Yüce Ayhan³, İpek Tamsel⁵, Demet Can³, Hübaver Alper⁶
¹Department of Pediatric Infectious Diseases, Dr. Behçet Uz Children's Hospital, İzmir, Turkey
²Department of Clinical Microbiology, Dr. Behçet Uz Children's Hospital, İzmir, Turkey
³Department of Pediatric Allergy and Clinical Immunology, Dr Behçet Uz Children's Hospital, İzmir, Turkey
⁴Department of Pediatrics, Dr. Behçet Uz Children's Hospital, İzmir, Turkey
⁵Department of Radiology, Dr. Behçet Uz Children's Hospital, İzmir, Turkey
⁶Department of Radiology, Ege University, Faculty of Medicine, İzmir, Turkey

BACKGROUND: Tuberculosis(TB) remains a major global health problem. The childhood tuberculosis has some unique features different which makes the diagnosis more complicated. We described the epidemiologic, clinical and microbiologic features of children with extrapulmonary and pulmonary TB.

METHODS: The data of the patients <17 years with active TB were collected and compared in pulmonary(PTB) and extrapulmonary TB(EXPTB) patients.

RESULTS: A total of 128 cases were included. Forty two cases occurred in children were < 5 years of age; 41 cases between 6-10 years and 45 cases > 10 years. PTB was present in 75,0% of the cases and EXPTB was present in 25% of cases. There was no significant difference between the EXPTB and PTB by means of distribution of age groups(p=0,201). The rate of patients free of constitutional symptoms were significantly higher in EXPTB compared to PTB(p=0,000). There was no significant difference between EXPTB and PTB by means of sources detection(p=0,069).

CONCLUSION: TB is still a major public health problem. EXPTB has an insidious and silent onset without any constitutional symptoms and microbiological confirmation plus the adult source could not be found mostly. Thus detection of the adult source is mandatory for controlling the TB disease in children

Keywords: Tuberculosis, extra-pulmonary tuberculosis, pulmonary tuberculosis, constitutional symptoms
SS112[Tuberculosis]

**Evaluation Of Treatment Of Drug Resistance Tuberculosis Excluding MDR-TB**

Hamza Ogun, İpek Özmen, Elif Yıldırım, Tülay Törün, Aslıhan Ak, Haluk Celalettin Çalışır  
Sureyyapasa Chest Diseases and Thoracic Surgery Training Hospital, Istanbul, Turkey.

In this study, we aimed to evaluate the treatment regimens and treatment results of patients with non MDR-TB drug resistance implemented in different five chest disease clinics at 2008-2010 in our hospital. There were 117 (70.1%) men and 50 (29.9%) women, mean age was 42.35 (18-90) years, respectively. Among mono drug resistance; H resistance in 75 (44.9%) patients and R resistance in 11 patients was detected. In 19 (11.4%) patients HS resistance was detected as multiple drug resistance. 125 (74.9%) were new cases. 124 (74.3%) patients were hospitalized and 43 (25.7%) patients’ treatment was followed by tuberculosis dispensaries. 64(51.2%) of the new tb cases treated with " standard treatment protocols for new cases " (2HRZE/4HR ) and 51 (40.8%) of them treated with "other treatment protocols". 10 (23.8%)of the recurrent tb cases" standard treatment for recurrent cases (2HRZES/HRZE/SHRE) and 9 (21.4%) 33(19.8%) of them treated with other protocols. The combination of the rthe treatment protocol and descriptive information about the duration of the treatment could not be created as 33 (19.8%) of the cases left without completing their treatment. When treatment results of in all patients evaluated, 136(81.4%) of the patients achieved treatment success. %6 of them has died, %5.4 has lost, %4.2 of has droped out, %1.8 of has relapsed and %1,2 of has treatment failure. As a result of the analysis, standart or not standart treatment who have completed their treatment, there was no significant difference in treatment outcomes.

**Keywords:** non MDR-TB drug resistance, treatment outcomes, tuberculosis

### Treatment Outcomes Of Standart And Non Standart Treatment Protocoles At New And Retreatment Cases

<table>
<thead>
<tr>
<th>Treatment Regimens</th>
<th>Treatment Success (Cured, Treatment Completion)</th>
<th>Adverse Outcomes (Failure, Relapse, Lost, Death)</th>
<th>Total</th>
<th>Chi-square</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standart Treatment Regimens (New Cases)</td>
<td>64</td>
<td>0</td>
<td>64</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non Standart Treatment Regimens (New Cases)</td>
<td>50</td>
<td>1</td>
<td>51</td>
<td>0.013</td>
<td>0.909</td>
</tr>
<tr>
<td>Total</td>
<td>114</td>
<td>1</td>
<td>115</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standart Treatment Regimens (Retreatment Cases)</td>
<td>10</td>
<td>0</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non Standart Treatment Regimens (Retreatment Cases)</td>
<td>7</td>
<td>2</td>
<td>9</td>
<td>0.685</td>
<td>0.408</td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
<td>2</td>
<td>19</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**SS113**[Tuberculosis]

**Comparison of Tuberculosis Patient Notifications with Those Detected by Active Surveillance, in Kayseri**

Sakir Hakan Aksu¹, Suha Özkan²
¹Kayseri Tuberculosis Control Dispansery
²Çamlıca Family Health Centre, Ankara

**AIM:** Tuberculosis (TB) is a notifiable disease. We aimed to compare tuberculosis patient notifications with the hospital laboratory records, found with active surveillance in 2013 in Kayseri. We want to learn the adequacy of notifications and find the patients who are not in dispensary records.

**METHOD:** The tuberculosis patient notifications were taken from Kayseri Directorate of Public Health records. Active surveillance study was done in Faculty of Medicine and Education Research Hospital (ERH) where tuberculosis patients diagnosed and treated and also had tuberculosis laboratory. The records were investigated and retrospectively analyzed. At the same time culture-positive, MGIT positive and reproductive showing typical examples are included in the study. The addresses of the patients had found and compared with the records of their province dispensary.

**RESULTS:** In the Faculty of Medicine’s Laboratory records it has shown that TB germs in 22 people and the shown by culture positivity and MGIT, in 2013. Atypical bacterial growth are not recorded. The figure is 50 in ERH laboratory records. These persons who with active surveillance, compared with the official notifications, 21 (29%) were found without notification. 10 (%14) people without official notification have been found to directly register by going to the dispensary. 50 of the 51 notified tuberculosis patient received the treatment at the dispensary.

**CONCLUSION:** Although tuberculosis is a notifiable disease, it is considered that it wasn’t done sufficiently. We thought that active surveillance must be done programmaticaly and regularly for treatment of TB patients, contact investigation, and also protective precautions.

**Keywords:** Active surveillance, Tuberculosis patient notifications
Predictive factors for future exacerbations in COPD patients with high-risk of exacerbation based on new GOLD classification

Sibel Atış Naycı, Eylem Sercan Özyürek, Cengiz Özge, Gamze Çavuşoğlu, Ahmet İlvan
Department of chest Diseases, Mersin University, Mersin, Turkey

AIM: To identification of patients at high risk for future exacerbation have a critical importance for to reduce the future risk in COPD patients. We aimed to evaluate the predictive factors for the risk of future exacerbation in the following one year in COPD patients with high risk group of exacerbation.

METHODS: 101 stable COPD patients with high risk group of exacerbation were included in this study. GOLD 3 or GOLD 4 categories, and/or individual patient’s exacerbation history with two or more history, and/or a history of hospitalisation due to an exacerbation in the preceding year indicated high risk patients. Basal CAT score, spirometry, dyspnea (modified Medical Research Council - mMRC-scale), exacerbation frequency and hospitalisation rate in the previous year, and comorbidities were evaluated. Exacerbation events in the following one year were prospectively collected.

RESULTS: Patients had a mean age of 62.3±7.9, FEV1 of 42.9±15.1% predicted, CAT score of 16.14±7.5 units. 68 (67.3%) of patients had at least one comorbidity. Multipl regression analysis showed that the frequent exacerbation history in the previous year increased future exacerbation 4.6 fold (p=0.02), however, CAT score, spirometry, dyspnea score and comorbidities have not significant predictors for future exacerbations.

CONCLUSION: The results of this study support the history of frequent exacerbation is very useful and significant predictor in the identification of patients at increased risk of exacerbations.

Keywords: CAT score, COPD, exacerbation, risk
The Distribution of COPD patients According to COPD Stages and Treatment Approaches in Clinical Practice of Respiratory Care in Turkey

Elif Sen¹, Salih Zeki Güçlü², Işıl Kibar³, Ülkü Bolol⁴, Hikmet Tereci⁵, Vey sel Yılmaz⁶, Onur Çelik⁷, Filiz Çimen⁸, Füsun Topçu⁹, Meltem Orhun¹⁰, Aylin Konya¹¹, İdilhan Ar¹¹, Sevgi Saryal¹

¹Ankara University, School of Medicine, Respiratory Diseases Department
²İzmir Dr. Suat Seren Pulmonary Diseases and Surgery Education and Research Hospital
³İstanbul Hospital
⁴Adana Prof. Dr. Nusret Karasu Respiratory Diseases Hospital
⁵Samsun Pulmonary Diseases and Pulmonary Surgery Hospital
⁶Yedikule Pulmonary Diseases and Surgery Education and Research Hospital
⁷Erzurum Nihat Kitapçı Pulmonary Diseases and Pulmonary Surgery Hospital
⁸Atatürk Pulmonary Diseases and Surgery Education and Research Hospital
⁹Dicle University, School of Medicine, Respiratory Diseases Department
¹⁰Üsküdar State Hospital
¹¹Novartis Pharmaceuticals, Turkey

Introduction and Aim
Extensive studies investigating treatment approaches in COPD in real-life in Turkey are limited. The trials done in various countries have shown that the compliance to guidelines is low. The aim of this study is to determine the distribution of COPD patients according to stages, treatment approaches in every stage based on GOLD 2010.

Materials and Method
In this study, performed August 2010, on 11 centers in 8 cities covering all the geographical areas of Turkey (secondary and tertiary health institutions), the filed data of 719 patients, 40 years of age and older with spirometrically confirmed COPD diagnosis in the last two years and 6-month treatment data were investigated.

Results
Patient Characteristics and COPD Stages
Patients characteristics with an average FEV1% of 44.9% were given in Table 1, the distribution of GOLD stages in Figure 1.

Treatment
Treatments according to stages are summarized in Table 2.
In stage 1 patients, LAMA and LABA+ICS+LAMA were the most preferred maintenance treatments. In stage 2 and advanced patients, the most preferred treatments were LABA+ICS+LAMA; LABA+ICS+LAMA+methylxanthine and LABA+ICS. 89% (619) of patients were using ICS containing treatments.

Conclusion
Study shows proportion of secondary and tertiary hospital admissions were low and LAMA and LABA+ICS+LAMA were used besides SABAs in GOLD stage 1 patients. In the half of stage 2 and 3 cases, LABA+ICS+LAMA was preferred and theophylline was added to this combination in stage 4 patients. Multiple treatment approaches were generally preferred in all phases and compared to guideline recommendations ICSs were overused.

Keywords: Distribution of stage, real-life, chronic obstructive pulmonary disease, distribution of treatment
Figure 1. Distribution of COPD patients according to COPD stages

Table 2. Treatments according to COPD stages

<table>
<thead>
<tr>
<th>İlaç Grubu</th>
<th>Evre 1</th>
<th>Evre 2</th>
<th>Evre 3</th>
<th>Evre 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kısa etkili bronkodilatör ilaç(lar)</td>
<td>11</td>
<td>91</td>
<td>156</td>
<td>69</td>
</tr>
<tr>
<td>LABA</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>LAMA</td>
<td>6</td>
<td>12</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>Metil ksantin</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>İKS</td>
<td>0</td>
<td>8</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>LABA+LAMA</td>
<td>1</td>
<td>20</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>LABA+İKS</td>
<td>1</td>
<td>30</td>
<td>30</td>
<td>17</td>
</tr>
<tr>
<td>LAMA+İKS</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>LABA+Metil ksantin</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>LAMA+Metil ksantin</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>LABA+LAMA+Metil ksantin</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>İKS+SABA+SAMA</td>
<td>0</td>
<td>1</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>LABA/LAMA+İKS+SABA+Metil ksantin</td>
<td>0</td>
<td>6</td>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td>LABA+İKS+LAMA</td>
<td>6</td>
<td>113</td>
<td>156</td>
<td>37</td>
</tr>
<tr>
<td>LABA+İKS+LAMA+Metil ksantin</td>
<td>0</td>
<td>31</td>
<td>94</td>
<td>37</td>
</tr>
<tr>
<td>İKS+SABA+SAMA+Metil ksantin</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>İlaç kullanmayan</td>
<td>1</td>
<td>9</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Toplam</td>
<td>16</td>
<td>238</td>
<td>346</td>
<td>119</td>
</tr>
</tbody>
</table>

LABA: Uzun etkili beta 2 agonist; LAMA: Uzun etkili antikolinerjik; İKS: İhale kortikosteroid; SABA: Kısa etkili beta 2 agonist; SAMA: Kısa etkili antikolinerjik
<table>
<thead>
<tr>
<th>Characteristics</th>
<th>n=719</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (year), Average (SD)</td>
<td>62.9 (9.7)</td>
</tr>
<tr>
<td>Male gender, n (%)</td>
<td>614 (85.4)</td>
</tr>
<tr>
<td>The duration of the disease, n (%)</td>
<td>6.0 (5.8)</td>
</tr>
<tr>
<td>FEV1 (L), Average (SD)</td>
<td>1.3 (0.6)</td>
</tr>
<tr>
<td>Social security, n (%)</td>
<td>685 (95.3)</td>
</tr>
<tr>
<td>Smoking history over then 20 package/year, n (%)</td>
<td>525 (73)</td>
</tr>
<tr>
<td>Smoking history, n (%)</td>
<td>642 (89.3)</td>
</tr>
<tr>
<td>Active smokers, n (%)</td>
<td>194 (27)</td>
</tr>
<tr>
<td>Ex-smokers, n (%)</td>
<td>448 (62.3)</td>
</tr>
<tr>
<td>Never smoked, n (%)</td>
<td>76 (10.6)</td>
</tr>
</tbody>
</table>
Bronchoscopic Lung Volume Reduction-Coil Treatment (BLVR-C): Results of a 3-months follow-up

Askın Gülşen¹, Fidan Sever¹, Pelin Girgin², Necdet Batuhan Tamçı³
¹Sifa University, Chest Disease Department, Izmir
²Sifa University, Anesthesia Department, Izmir
³Sifa University, Cardiology Department, Izmir

Background
The lung volume reduction coil (LVR-C), a new implant, is usable with bronchoscopy in patients with severe emphysema. Lung volume reduction aims to improve symptoms by reducing hyperinflation and air trapping.

Methods
Patients with severe emphysema were eligible. In all cases, a emphysema distribution was confirmed by computer analysis of the CT-scans. They were ex-smokers, with FEV1 15-45% of predicted, residual volume > 175%, with lung hyperinflation and significant dyspnea. 40 patients underwent 50 procedures. Procedures were performed under general anesthesia and lasted 20 +/- 10 minutes and per procedure 6-12 coils were placed in one lung. Treatment consisted of the first placement of coils into the parenchyma of the most diseased area with the intent of achieving parenchymal compression. We performed unilateral and bilateral BLVR-C.

Results
The total follow-up time was 1-3 months and in that time 12 adverse events were reported. Dyspnea, cough, and chest pain were adverse events reported. No pneumothorax occurred. There were 4 exacerbations of COPD, 5 pneumonia (4 procedure side, 1 other lung) and 1 death were reported. In one case, we terminated during procedure because hypotension and bradycardia. 3 months after LVR-coil treatment, there were significant improvements in FEV1 (+180ml), FVC (+360ml), residual volume (-14.6% ± 9.4%), and 6MWT (+95.5 ± 62.8 m), (all P < .005)

Conclusion
Patient selection and preparation is most important point before treatment. BLVR-C appears to be safer than surgery and presents an alternative for the treatment of severe COPD patients. Our study continues for long-term results.

Keywords: Chronic Obstructive Pulmonary Disease, Emphysema, Bronchoscopic lung volume reduction, BLVR-C, Coil, 3 months follow up, Results
**SS117[COPD]**

**Bronchoscopic lung volume reduction with coils (BLVR-Coils) for treatment of patients with emphysema**

Turhan Ece¹, Züleyha Bingöl¹, Yasemin Ateş¹, Korkut Bostancı²

¹Istanbul University, Istanbul Medical Faculty, Pulmonary Department, Istanbul, Turkey
²Marmara University Medical Faculty, Thoracic Surgery Department, Istanbul, Turkey

**OBJECTIVES:** Retrospective analysis to establish weather unilateral ELVR using Coils is effective and safe in severe heterogeneous emphysema patients

**METHODS:** Coils have been implanted unilaterally, either in the upper or in the lower lobe. Patients were analyzed at 30 days after treatment. Endpoints are the changes in pulmonary function tests, exercise capacity and quality of life

**RESULTS:** Eight patients; FEV₁ < 45 %, DLCO > 20 %, RV > 175 %, PaCO₂ < 60 % were treated with BLVR-Coils. Clinically important improvement were seen in pulmonary function tests, exercise capacity and quality of life.

**CONCLUSION:** BLVR-Coils is effective for treatment of patients with heterogeneous emphysema

**Keywords:** coil, emphysema, endobronchial volume reduction treatment
Effect of Cardiac Comorbidities on Hospital mortality and Duration of Hospitalization in Hospitalized COPD Exacerbations

Yavuz Havlucu1, Ece Kaya2, Gaye Salanturoğlu1, Arzu Yorgancıoğlu1
1Celal Bayar University Faculty of Medicine Department of Chest Disease, Manisa, Turkey
2Salihli State Hospital Chest Disease Clinic, Manisa, Turkey

COPD exacerbations resulting in hospitalization are accompanied by high mortality and morbidity. The contribution of specific co-morbidities like cardiac to acute outcomes is not known in detail: existing studies have used either administrative data or small clinical cohorts and have provided conflicting results. Identification of co-existent diseases that affect outcomes provides opportunities to address these conditions proactively and improve overall COPD care. Hospitalized COPD exacerbation cases were identified retrospectively between January 2013 and December 2013 in Salihli State Hospital and Celal Bayar University Hospital. Outcomes recorded were death in hospital and length of stay. 2 hospitals collected data on 416 patients, mean age 71.8 years, 88.9% male (n=374), mean FEV1 47.6% predicted. Prevalence of cardiac co-morbidities were associated with increased age and ex-smoker status and with worse outcomes for mortality and duration of hospitalization. Hospital mortality risk was increased with cor pulmonale, left ventricular failure, arrhythmias, and ischaemic heart diseases. This study demonstrates that cardiac co-morbidities adversely affect a range of short-term patient outcomes related to mortality and length of hospitalization at acute admission to hospital with exacerbations of COPD. Recognition of relevant accompanying cardiac diseases at admission provides an opportunity for specific interventions that may improve short-term prognosis.

Keywords: COPD exacerbation, cardiac comorbidity, mortality
May Malign Mesothelioma Metastasize Extensively to Skin Unless An Invasive Intervention Was Carried Out?

Bülent Öztürk¹, Fatih Meteroğlu², Atalay Şahin², Menduh Oruç²
¹Research and Training Hospital, Department of Thoracic Surgery, Diyarbakır, Turkey
²Dicle University, Medical School, Department of Thoracic Surgery, Diyarbakır, Turkey

A forty six year old man admitted with complaints of chest pain, shortness of breath and some lumps under his skin. Widespread subcutaneous nodules in front and back aspects of his chest, abdomen and lumbosacral area were found on physical examination. Biopsies from his left hemithorax and subcutaneous lumps were made. The results were mixed mesothelioma and its metastasis. The patient had no history of any diagnostic intervention. We found it interesting that it could metastasize in this way. We present this case with the literature (Figure 1,2).

Keywords: Invasive, mesothelioma, metastasis,
Subcutaneous nodule
Rip bars and/or clips applied 12 cases by Stratos system. Single center experience

Gökay Reyhan
Thoracic Surgery Clinic, Denizli Goverment Hospital, Denizli, Turkey

AIM: We present our experience with patients which applied Stratos system.

MATERIAL-METHODS: From March 2013 through October 2013, 12 patients had rib bars and/or clips applied with Stratos system in Kilis Goverment Hospital. There were eleven (91.7%) men and one (8.3%) women and mean age 35.2 (17-65). We have retrospectively reviewed data of these patients. Two (16.7%) patients were Turkish and ten (83.3%) patients were Syrian. Eleven (91.7%) patients were firearms injury and one (8.3%) was old traffic accident.

RESULTS: One (8.3%) patient had only rib fracture and eleven (91.7%) patients had extra injury. Hemothorax in one (8.3%) patient, pneumothorax in two (16.7%) patients and hemopneumothorax in eight (66.7%) patients determined. Eleven patients with firearms injury had also lung injury. A In eleven (91.7%) patients thoracotomy, one (8.3%) patient thoracotomy incision applied and four (33.3%) patients also laparotomy applied. Two (16.7%) patients apied only bar, nine (75%) patients only clips and one (8.3%) patient bar and clips. Eleven (91.7%) patients had pneumorrhaphy, two (16.7%) of them had wedge resection and tree (25%) of them had diaphragma repair. Two (16.7%) patients had mortality; one was peroperatively because of abdomen hemorrhage, and one was because of sepsis at tenth day.

CONCLUSION: Stratos system can be used for traumatic rib fractures and chest wall destructions. It must recur to the mind in conditions of flail chest, open thorax and unstable chest wall.

Keywords: Stratos, trauma, bar, clips
The first single port video-assisted thoracoscopic (VATS) lobectomy in turkey

İlhan Ocakcıoğlu
Department of Thoracic Surgery, Van Regional Training And Research Hospital, Van, Turkey

Thoracotomy is generally used in the surgical treatment of bronchiectasis, however nowadays video-assisted thoracoscopic surgery (VATS) is being used routinely in thoracic surgery practice. Traditional VATS resections require three or four port incisions, on the other hand we carried out a left lower lobectomy from a single port. Fourty three year old female patient presenting with cough in the last year and hemoptysis in the last six months was referred to our clinic. She was in clinical follow-up for one year and no etiological factor was found. Thorax computed tomography showed cystic bronchiectasis localized in the left lower lobe (Picture 1). Clot and secretion was seen at the entrance of the left lower lobe in bronchoscopy. Left lower lobectomy was planned and we carried out the VATS procedure in our patient with the diagnosis of bronchiectasis through a single port (Picture 2 a,b,c,d,e). In postoperative follow up non-steroid antienflammatory drugs were used with no need for narcotic analgesics. Patient was discharged on the fourth postoperative day. In six months of follow up no postoperative pain was seen. Pathology was reported as saccular bronchiectasis. In the surgical theraphy of bronchiectasis thoracotomy and VATS are generally preferred, single port VATS resection however, is a new method. It is applied for the first time in Turkey. This technique is a better approach since it causes less hospital stay, less drop in respiratory functions and less pain with better cosmetic results compared to thoracotomy. Through experienced surgeons, single port VATS anatomic resection in bronchiectasis is a safe and practical method.

Keywords: Single port, video-assisted thoracoscopic surgery, lobectomy, bronchiectasis
Thorax computed tomography showed cystic bronchiectasis localized in the left lower lobe.

Picture 1

Thorax computed tomography showed cystic bronchiectasis localized in the left lower lobe

Picture 2

Picture 2a, b. Thoracoscopic images Picture 2c. The use of endoscopic instruments Picture 2d, e Incision size
Interesting tracheobronchial foreign bodies:

Aspiration of tracheobronchial foreign bodies occurs more commonly in children, but it also can occur at any age. Foreign body can cause minor complaints as well as life-threatening major complications. In this study, we presented interesting foreign bodies aspirations contrary to common foreign body aspiration.

**Material - METHODS:** Between 1999-2013, Rigid bronchoscopy was performed to 110 patients due to tracheobronchial aspiration. 12 patients who aspirated interesting foreign body were included in this study. Foreign bodies were two pencil tops, 1 theeth protesis materials, 1 pen case with inkwell, 1 gas, 1 woodstick, 1 silver canula, 2 voice apparatus, 1 injection needle, 1 ear cleaning stick, 1 chicken bone. Foreign bodies were removed via rigid bronchoscopy in 6 patients, via flexible bronchoscopy in 2 patients, via thoracotomy in 4 patients. There was no mortality and morbidity.

**CONCLUSION:** Tracheobronchial foreign body aspirations are life-threatening clinical conditions and need emergency intervention. Early diagnosis and determining correct treatment modality are very important for preventing mortality and complications.

**Keywords:** aspiration, foreign bodies, tracheobronchial
Co-occurrence of Bronchial Atresia and Intrapulmonary Sequestration in Different Lobes

Nilgün Kanlıoğlu Kuman¹, Şerdar Şen¹, Seda Karakoyunlu Şen¹, Can Zafer Karaman², Emel Ceylan³, İbrahim Meteoğlu⁴
¹Adnan Menderes University Faculty of Medicine, Thoracic Surgery Department
²Adnan Menderes University Faculty of Medicine, Radiology Department
³Adnan Menderes University Faculty of Medicine, Pulmonology Department
⁴Adnan Menderes University Faculty of Medicine, Pathology Department

Bronchial atresia and intrapulmonary sequestration are rare congenital anomalies. Co-occurrence of these two anomalies in different lobes is much more rarely encountered. A man aged 21 admitted with chest discomfort and hemoptysis. In his medical history there was a treatment for hydatic cyst. Chest x-ray showed hyperaeration in middle zone and consolidation at cardiopherenic sinus in right hemithorax. Thorax computed tomography showed bronchial atresia in lateral segment of right middle lobe and therefore overinflated emphysematous change and intrapulmonary sequestration in posterobasal segment of right lower lobe. Rudimentary lateral segmental bronchus of right middle lobe was surrounded with a pulsatile vessel and bronchial lumen cannot be visualized by bronchoscopy. Lateral segmentectomy of middle lobe for bronchial atresia and posterobasal segmentectomy of lower lobe for intrapulmonary sequestration was performed.

Keywords: atresia, bronchial intrapulmonary, segmentectomy, sequestration

Figure 1

A; Hyperinflation was observed in middle lobe laterally segmental area B; Consolidation in lower lobe posterobasal segment, lesion which include bronchiectasis was seen on thoracic tomography
A; Hyperinflation of middle lobe lateral segment B; Vascular structures of squestre area in lower lobe which connected with mediastinum
Role Of Mean SUV and Metabolic Tumor Volume by PET/CT for Determination of mean survival Time in Patients with Non-Small Cell Lung Cancer

Ercan Kurtipek, Mustafa Çaycı, Nuri Düzgün, Hıdır Esme, Yüksel Terzi, Süleyman Baktık, Murat Serhat Aygün, Yaşar Ünlü, Cengiz Burnik, Taha Tahir Bekçi

1Konya Training and Research Hospital, Department of Chest Diseases, Meram, Konya
2Konya Training and Research Hospital, Department of Nuclear Medicine, Meram, Konya
3Konya Training and Research Hospital, Department of Thoracic Surgery, Meram,
4Ondokuz Mayıs University Medicine Faculty, Department of Biostatistics, Samsun
5Konya Training and Research Hospital, Department of Radiology, Meram,
6Konya Training and Research Hospital, Department of Pathology, Meram,

The study was designed to determine the relationship between survival time and maximum Standard Uptake Value (SUVmax), mean Standard Uptake Value (mSUV) and Metabolic Tumor Volume (MTV) of FDG-PET/CT in patients with non-small cell lung cancer, and examine the impact of demographic, clinical and radiological data of these patients on survival. We performed a retrospective analysis of the files of 79 patients with NSCLC who presented to our hospital between May 2010 and March 2013, received a final diagnosis and underwent FDG-PET/CT for staging. Clinical, radiological and FDG-PET/CT parameters with an impact on prognosis such as the SUVmax of the primary tumor, calculated by the volumetric region of interest in the FDG/PET/CT scans during initial diagnosis, the mean SUV of the tumor, and metabolic tumor volume (MTV), obtained with a threshold of SUVmax > 2.5 were recorded and statistically analysed. According to the Cox regression analysis, higher MTV (RR: 1.006, p=0.03) and mSUV (RR: 1.302, p=0.03) had a significant impact on shortening of the mean survival time. However, no statistical significance was achieved for SUVmax measurements (RR: 0.970, p=0.39). The present study showed that MTV and mSUV of FDG-PET/CT scans of the tumor, but not SUVmax had a significant impact on survival time of patients with NSCLC. Based on this result, we believe that we might have more accurate information about survival time of our patients if we also evaluate mSUV and MTV in combination with SUVmax, which is frequently used for diagnosis and monitoring of patients with NSCLC during our daily practice.

Keywords: Mean SUV, metabolic tumor volume, non small cell ca
The value of miR221 and miR222 as a biomarker in Non Small Cell Lung Cancer

Yasemin Müşteri Oltulu¹, Ender Coşkunpinar¹, Engin Aynacı², Pınar Yıldız³, İlhan Yaylım¹
¹Istanbul University, DETAE, Department of Molecular Medicine, Istanbul, Turkey
²Medipol University, Faculty of Medicine, Department of Chest Diseases, Istanbul, Turkey.
³Yedikule Chest Diseases and Thoracic Surgery Training Hospital, Istanbul, Turkey

INTRODUCTION and AIM
MicroRNAs (miRNA) are a class of small non-coding RNAs of 18-24 nucleotides in length that regulate gene expression at the posttranscriptional level by either degrading or blocking translation of messenger RNA targets. Non-small cell lung cancer (NSCLC) represents about 80% of all lung cancers. Early and accurate diagnosis of the disease, also affects the probability of success of treatment to be applied. Aim of the study is investigate of expression levels of serum specific miRNA221 and miRNA222 as a biomarker in NSCLC.

MATERIAL & METHOD
Thirty-two NSCLC cases and 30 healthy control cases that were diagnosed at Yedikule Chest Diseases and Chest Surgery, Training and Research Hospital were included in this study. In the study were used miRNA-specific quantitative real-time PCR based miRNA (miR-qRT-PCR) detection methods.

RESULTS
In NSCLC patients in accordance with control, miR221 and miR222 are expressed 1.46 and 1.63-fold, respectively, and while the difference of expression is statistically significant for miR221 (p: 0.0001), significant difference did not be detected for miR222 (p: 0.08). In the presence of metastasis of NSCLC patients, miR221 is expressed 2.33-fold (p: 0.014) and miR221 and miR222 are expressed 1.44 and 1.52-fold respectively in advanced stage in accordance with early stage (p: 0.0004, p: 0.0003).

CONCLUSION
We think that the expression differences of miR221 and miR222 could be used as biomarkers in diagnosis, treatment and prognosis of NSCLC when it is considered that the differences that are able to occur in miRNAs of circulatory system could be extremely significant valuable in diagnosis and treatment of NSCLC.

Keywords: NSCLC, biomarker, gene expression, miR221, miR222

Figure 1. The fold change of miR221 and miR222
**Table 1. The fold change of miR221 and miR222**

<table>
<thead>
<tr>
<th>Gene</th>
<th>Average ΔCt NSCLC</th>
<th>Average ΔCt Control</th>
<th>2^-ΔCt</th>
<th>2^-ΔCt</th>
<th>%95 C.I</th>
<th>Fold change</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>miR221</td>
<td>4.63</td>
<td>5.18</td>
<td>0.040444</td>
<td>0.027666</td>
<td>(1.39 - 1.53)</td>
<td>1.46</td>
<td>0.000095</td>
</tr>
<tr>
<td>miR222</td>
<td>3.16</td>
<td>3.87</td>
<td>0.111545</td>
<td>0.068384</td>
<td>(1.05 - 2.21)</td>
<td>1.63</td>
<td>0.084470</td>
</tr>
<tr>
<td>Average ΔCt</td>
<td>Average ΔCt</td>
<td>2^-ΔCt</td>
<td>2^-ΔCt</td>
<td>%95 C.I</td>
<td>Fold change</td>
<td>p-value</td>
<td></td>
</tr>
<tr>
<td>T3+T4</td>
<td>T1+T2</td>
<td>T3+T4</td>
<td>T1+T2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>miR221</td>
<td>4.01</td>
<td>5.40</td>
<td>0.062144</td>
<td>0.023678</td>
<td>(2.23-3.01)</td>
<td>2.62</td>
<td>0.000165</td>
</tr>
<tr>
<td>miR222</td>
<td>2.23</td>
<td>4.31</td>
<td>0.213465</td>
<td>0.050513</td>
<td>(2.12-6.34)</td>
<td>4.23</td>
<td>0.007449</td>
</tr>
<tr>
<td>Metastases(+) Metastases(-)</td>
<td>Metastases(+) Metastases(-)</td>
<td>Metastases(+) Metastases(-)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>miR221</td>
<td>3.62</td>
<td>4.84</td>
<td>0.081488</td>
<td>0.034958</td>
<td>(1.66-3.00)</td>
<td>2.33</td>
<td>0.014585</td>
</tr>
<tr>
<td>miR222</td>
<td>5.36</td>
<td>2.49</td>
<td>0.024360</td>
<td>0.177885</td>
<td>(0.05-0.22)</td>
<td>0.14</td>
<td>0.006675</td>
</tr>
<tr>
<td>Advanced stage Early stage Advanced stage Early stage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>miR221</td>
<td>7.06</td>
<td>7.59</td>
<td>0.007485</td>
<td>0.005190</td>
<td>(1.36-1.52)</td>
<td>1.44</td>
<td>0.000387</td>
</tr>
<tr>
<td>miR222</td>
<td>1.95</td>
<td>2.56</td>
<td>0.258048</td>
<td>0.169796</td>
<td>(1.43-1.61)</td>
<td>1.52</td>
<td>0.000302</td>
</tr>
</tbody>
</table>
Figure 2. Scatter plot of miR221 and miR222 gene expression level differences

Hasta vs Kontrol
The Significance of HSP90AA1, HSP90AB1 and HSP90B1 Gene Polymorphisms in a Turkish Population with Non-small Cell Lung Cancer

Ender Coşkunpinar¹, Nergiz Akkaya¹, Pınar Yıldız², Yasemin Müşteri Oltulu¹, Engin Aynacı³, Turgay İsbir⁴, İlhan Yaylım¹
¹Department of Molecular Medicine, Institute for Experimental Medicine (DETAE), Istanbul University, Istanbul, Turkey
²Third Clinic, Yedikule Teaching Hospital for Chest Diseases and Thoracic Surgery, Istanbul, Turkey
³Department of Chest Diseases, Faculty of Medicine, Medipol University, Istanbul, Turkey
⁴Department of Medical Biology, School of Medicine, Yeditepe University, Istanbul, Turkey

BACKGROUND
Heat shock proteins (HSPs) are molecular chaperones which modify the structures and interactions of other proteins. The aim of our study was to investigate HSP90AA1, HSP90AB1 and HSP90B1 gene polymorphisms by using real-time polymerase chain reaction (PCR) technique in patients with Non small cell lung cancer (NSCLC).

MATERIALS AND METHODS
In this study, 97 patients with NSCLC and 97 healthy controls were included. Real-time PCR technique was used for genotyping.

RESULTS
The frequency of mutant CC genotype for HSP90AA1 (rs4947C/T), mutant AA genotype for HSP90AB1 (rs13296A/G) and mutant CC genotype for HSP90B1 (rs2070908 C/G) was significantly higher in the patient group in controls (p= 0.019, p= 0.004, p= 0.036, respectively). The frequency of patients with homozygote mutant allele was also significantly higher than that of controls and possessing mutant genotype increased appears to be the risk for disease by approximately 2.9, 4.8, 1.9 for HSP90AA1, HSP90AB1 and HSP90B1, respectively.

DISCUSSION
To our knowledge, this is the first data that evaluates the collective impact of the above mentioned SNPs on NSCLC in our ethnical population. We detected that presence of mutant genotype [all included HSP90AA1 (rs4947C/T), HSP90AB1 (rs13296A/G), HSP90B1 (rs2070908C/G)] increase the risk for disease.

Keywords: NSCLC, HSP90AA1, HSP90B1, HSP90AB1, biomarker
### Results of the haplotype analysis in patients and controls (HSP90AA1, HSP90AB1 and HSP90B1 genes)

<table>
<thead>
<tr>
<th>Haplotype no</th>
<th>Haplotype</th>
<th>Total Frequency</th>
<th>NSCLC Frequency</th>
<th>Controls Frequency</th>
<th>$\chi^2$</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CGA</td>
<td>0.385</td>
<td>0.439</td>
<td>0.330</td>
<td>4.793</td>
<td>0.0286</td>
</tr>
<tr>
<td>2</td>
<td>CCA</td>
<td>0.162</td>
<td>0.135</td>
<td>0.190</td>
<td>2.179</td>
<td>0.1399</td>
</tr>
<tr>
<td>3</td>
<td>TCA</td>
<td>0.150</td>
<td>0.188</td>
<td>0.112</td>
<td>4.41</td>
<td>0.0357</td>
</tr>
<tr>
<td>4</td>
<td>TGA</td>
<td>0.097</td>
<td>0.074</td>
<td>0.120</td>
<td>2.416</td>
<td>0.1201</td>
</tr>
<tr>
<td>5</td>
<td>TCG</td>
<td>0.090</td>
<td>0.137</td>
<td>0.042</td>
<td>10.78</td>
<td>0.001</td>
</tr>
<tr>
<td>6</td>
<td>CGG</td>
<td>0.066</td>
<td>0.077</td>
<td>0.055</td>
<td>0.74</td>
<td>0.3895</td>
</tr>
<tr>
<td>7</td>
<td>CCG</td>
<td>0.044</td>
<td>0.051</td>
<td>0.038</td>
<td>0.377</td>
<td>0.5391</td>
</tr>
</tbody>
</table>
## Distribution of HSP90AA1, HSP90AB1, HSP90B1 genotype and allele in NSCLC and control groups

<table>
<thead>
<tr>
<th>Genotype</th>
<th>NSCLC n(%)</th>
<th>Controls n(%)</th>
<th>O.R (95%CI)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HSP90AA1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Genotype</td>
<td></td>
<td></td>
<td></td>
<td>0.019</td>
</tr>
<tr>
<td>TT</td>
<td>58(59.8)</td>
<td>75(77.3)</td>
<td>0.436(0.234-0.815)</td>
<td>0.009</td>
</tr>
<tr>
<td>TC</td>
<td>25(25.8)</td>
<td>17(17.5)</td>
<td>0.612(0.306-1.224)</td>
<td>0.163</td>
</tr>
<tr>
<td>CC</td>
<td>14(14.4)</td>
<td>5(5.02)</td>
<td>3.1(1.072-8.988)</td>
<td>0.027*</td>
</tr>
<tr>
<td>Allele</td>
<td></td>
<td></td>
<td></td>
<td>0.001</td>
</tr>
<tr>
<td>T</td>
<td>141(72.7)</td>
<td>167(86.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>53(27.3)</td>
<td>27(13.9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>HSP90AB1</strong></td>
<td></td>
<td></td>
<td></td>
<td>0.004**</td>
</tr>
<tr>
<td>Genotype</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GG</td>
<td>37(38.1)</td>
<td>47(48.5)</td>
<td>0.656(0.371-1.162)</td>
<td></td>
</tr>
<tr>
<td>GA</td>
<td>41(42.3)</td>
<td>46(47.4)</td>
<td>1.232(0.699-2.171)</td>
<td></td>
</tr>
<tr>
<td>AA</td>
<td>19(19.6)</td>
<td>4(4.1)</td>
<td>5.66(1.849-17.348)</td>
<td></td>
</tr>
<tr>
<td>Allele</td>
<td></td>
<td></td>
<td></td>
<td>0.007**</td>
</tr>
<tr>
<td>G</td>
<td>115(59.3)</td>
<td>140(72.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>79(40.7)</td>
<td>54(27.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>HSP90B1</strong></td>
<td></td>
<td></td>
<td></td>
<td>0.036**</td>
</tr>
<tr>
<td>Genotype</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GG</td>
<td>23(23.7)</td>
<td>36(37.1)</td>
<td>0.527(0.282-0.982)</td>
<td></td>
</tr>
<tr>
<td>GC</td>
<td>49(50.5)</td>
<td>48(49.5)</td>
<td>0.96(0.547-1.685)</td>
<td></td>
</tr>
<tr>
<td>CC</td>
<td>25(25.8)</td>
<td>13(13.4)</td>
<td>2.24(1.07-4.704)</td>
<td></td>
</tr>
<tr>
<td>Allele</td>
<td></td>
<td></td>
<td></td>
<td>0.01**</td>
</tr>
<tr>
<td>G</td>
<td>95(49)</td>
<td>120(61.9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>99(51)</td>
<td>74(38.1)</td>
<td></td>
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</tr>
</tbody>
</table>
The Roles of Ki-67, p53, Transforming Growth Factor-β, and Lysyl Oxidase in the metastasis of lung cancer

Ömer Araz¹, Elif Demirci², Elif Yılmazel Uçar³, Muhammet Çalık², Adem Karaman³, İrmak Durur Subaşı¹, Ebru Orsal⁴, Mahmut Subaşı⁵, Ferah Daloğlu⁶, Hamit Acemoğlu⁷, Metin Akgün¹
¹Department of Pulmonary Diseases, Ataturk University, Erzurum, Turkey
²Department of Pathology, Ataturk University, Erzurum, Turkey
³Department of Radiology, Ataturk University, Erzurum, Turkey
⁴Department of Nuclear Medicine, Ataturk University, Erzurum, Turkey
⁵Department of Thoracic Surgery, Erzurum Regional Training and Research Hospital, Erzurum, Turkey
⁶Department of Pathology, Erzurum Regional Training and Research Hospital, Erzurum, Turkey
⁷Department of Medical Education, Ataturk University, Erzurum, Turkey

OBJECTIVES: This study aimed to evaluate the microscopic predictive molecular markers that play roles in metastasis. The secondary aim of the study was the investigation of the relationship between these parameters and the SUVmax of the primary lesion, obtained by PET-CT.

METHODS: Eighty-five patients with newly diagnosed LC were enrolled in this study. All patients were examined using the PET-CT and brain magnetic resonance imaging. Ki-67, p53, transforming growth factor-β (TGF-β), and lysyl oxidase (LOX) were evaluated histopathologically in all of the cases.

RESULTS: Immunohistochemical evaluations revealed small cell lung carcinoma (SCLC) as showing the most intense staining in all parameters(Figure1), and differentiated adenocarcinoma demonstrated a more diffuse and intense staining than squamous cell carcinoma (SCC). Statistical analyses revealed no statistically significant relationship between the four parameters and both metastases of SCLC and SCC. There was a statistically significant relationship between the parameters of TGF-β, LOX, and the metastasis of adenocarcinoma in terms of diffusivity and intensity; however, p53 and Ki-67 did not show a statistically significant relationship. These four parameters obtained from both the SCLC and SCC cases demonstrated no correlation to the SUVmax. In the case of adenocarcinoma, the diffusivity and intensity of the LOX and p53 staining showed a statistically significant relationship to the SUVmax; but for the other parameters, a statistically significant relationship was not seen(Figure2).

CONCLUSION: LOX and TGF-β may play roles in cases of metastases in lung adenocarcinoma. The inhibition of these factors and their signaling pathways can be used as a method of treatment for lung cancer.

Keywords: Lung cancer, metastasis, Ki-67, p53, TGF-β, lysyl oxidase
Figure 1

Immunohistochemical staining of lung adenocarcinoma (A) p53 X200, (B) Ki-67 X200 (C) Lysyl oxidase X200 (D) Transforming growth factor-β X400.

Figure 2

The relationship between the mean SUVmax of the primary mass and staining diffusivity of lysyl oxidase. Grade 1= below 10% (mild), Grade 2= 10-50% (moderate), Grade 3= above 50% (severe) of staining AC: Adenocarcinoma, SCC: Squamous cell carcinoma, SCLC: Small cell lung cancer (p = 0.006, r = 0.448).
### The characteristics of patients NSCLC and SCLC

<table>
<thead>
<tr>
<th>Classification of patients</th>
<th>No. of patients</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NSCLC</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>Male</td>
<td>63</td>
<td>90</td>
</tr>
<tr>
<td>Tumor Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Squamous cell carcinoma</td>
<td>34</td>
<td>48.5</td>
</tr>
<tr>
<td>Adenocarcinoma</td>
<td></td>
<td>51.5</td>
</tr>
<tr>
<td>Metastasis*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metastasis</td>
<td>59</td>
<td>84.3</td>
</tr>
<tr>
<td>Non-metastasis</td>
<td>11</td>
<td>15.7</td>
</tr>
<tr>
<td><strong>SCLC</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
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<td>-</td>
</tr>
<tr>
<td>Male</td>
<td>15</td>
<td>100</td>
</tr>
<tr>
<td>Metastasis**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limited</td>
<td>5</td>
<td>33.3</td>
</tr>
<tr>
<td>Extensive</td>
<td>10</td>
<td>66.7</td>
</tr>
</tbody>
</table>

* Cases with and without lymph node involvement and distant metastasis. ** Limited and extensive stage.

NSCLC: Non-small cell lung cancer, SCLC: Small cell lung cancer
**SS128 [Pulmonary and Pleural Malignancies]**

**Evaluation of Before the Treatment of Advanced Lung Cancer Patients With Mini Nutritional Assessment and Investigate the Relationship Between Malnutrition Clinicopathological Factors**

Gülcan Koparan Sağır¹, Necla Songür², Önder Öztürk³, Hilmi Karatosun⁴
¹Gaziosmanpaşa Taksim Education and Research Hospital, Istanbul
²Sisli Memorial Hospital, Istanbul
³Departments of Chest Diseases, Medical Faculty of Süleyman Demirel University, Isparta
⁴Departments of Sports Medicine, Medical Faculty of Süleyman Demirel University, Isparta

AIM: The aim of this study is to investigate the relationship between malnutrition and clinicopathological factors by evaluating the nutritional status of patients, who had advanced lung cancer, by Mini Nutritional Assessment (MND) before the treatment.

MATERIAL-METHODS: The 121 patients (advanced NSCLC and SCLC), admitted to our faculty between 2011-2012 years, were enrolled to the study. Their demographic properties were recorded and their anthropometric measurements were performed. The anxiety and depression status was evaluated by hospital anxiety and depression scala (HAD), and the nutritional status was evaluated by MND.

RESULTS: The study population consisted of stage 4 (76.8%) and Stage 3 (23.2%) patients with the diagnosis of NSCLC (n=70, 70.7%) and SCLC (n=29, 29.3%). The MND total score of the two groups were statistically different (p<0.05); 16 patients (16.2%) had no malnutrition, 36 patients (36.4%) had risk of malnutrition and 47 patients (47.5%) had malnutrition. MND score; body mass index, performance status, average triceps skinfold thickness, average calf circumference, mid arm muscle circumference, mid upper arm circumference had showed positive correlation (p <0.05), whereas HAD scala had showed negative correlation (p <0.05). The survival period was decreased at patients with malnutrition (p<0,001). Due to HAD scale, 18.6% of NSCLC patients had anxiety and 31.3% had severe depression.

CONCLUSION: It is thought that the nutritional and psychological status of the patients with advanced lung cancer must be evaluated by MND and HAD before treatment, in order to predict the prognosis and also to maintain the suitable treatments.

Keywords: Advanced lung cancer, mini nutritional assessment, malnutrition, depression.
The Clinical Utility of Memorial Symptom Assessment-Short form and Condensed Memorial Symptom Assessment Scale in Turkish Lung Cancer Patients

Melike Yüceegzel, Berrin Sanisoğlu, Hikmet Firat, Yeşim Ersoy, Emine Sevgi, Emine Bahar Kurt
1Dişkapı Yıldırım Beyazıt Educational and Research Hospital Respiratory Medicine Clinic
2Bağcılar State Hospital Respiratory Medicine Clinic
3Medical Clinic of Houston, Internal Medicine Clinic, Texas

INTRODUCTION: Symptom assessment is essential in the palliative care of patients with cancer. We studied the Memorial Assessment Scale Test-Short Form (MSAS-SF) and Condensed Memorial Assessment Test (CMSAS) in lung cancer patients.

METHOD: 51 patients with lung cancer (47 nonsmall, 4 small cell) were staged according to International Association for the Study of Lung Cancer (IASLC)-2007 and filled the MSAS-SF. Karnofsky performance status (KPS), TNM staging, MSAS-SF scores, CMSAS scores were recorded. The study was approved by the local research ethics committee.

RESULTS: The mean age of 51 patients was 61.7±9. 51% were staged as M1, 49% were as M0. The mean values for GDI (Global Distress Index), PHYS (Physical Symptom Distress), PSYCH (Psychological Symptom Score) and MSAS-SUM were 1.15±0.8, 0.9±0.8, 1.13±1.03 and 0.82±0.47 for the MSAS-SF scores in order. The mean values for CPHYS (Physical Symptom Distress for CMSAS), CPSYCH (Psychological Symptom Score for CMSAS) and CMSAS (Sum scores) were 1.2±0.75, 1.22±1.1, and 1.16±0.69 in order for CMSAS subscores. Summary scores for both MSAS-SF and Condensed MSAS-SF were significantly higher in patients with M1 disease than from M0 disease. In addition, PHYS and MSAS-SUM in MSAS-SF were significantly correlated with T and N stage. AUC for MSAS-SF and CMSAS were 0.793 and 0.70 in order.

CONCLUSION: MSAS-SF and CMSAS demonstrated significantly higher scores in lung cancer patients with M1 disease than patients with M0 disease. Further studies are needed to evaluate the usefulness of MSAS-SF and condensed MSAS in lung cancer patients.

Keywords: Cancer, Pulmonary, TNM staging, symptoms, Karnofsky scale, MSAS Short Form

<table>
<thead>
<tr>
<th>MSAS-SF and CMSAS scores in M1 and M0 lung cancer patients</th>
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<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>GDI</td>
</tr>
<tr>
<td>PSYCH</td>
</tr>
<tr>
<td>PHYS</td>
</tr>
<tr>
<td>MSAS-SUM</td>
</tr>
<tr>
<td>CPHYS</td>
</tr>
<tr>
<td>CPSYCH</td>
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<tr>
<td>CSUM</td>
</tr>
</tbody>
</table>

Global Distress Index; GDI, Psychological Symptom distress; PSYCH, Physical symptom distress; PHYS and sum MSAS; MSAS-SUM and the mean Condensed MSAS (CMSAS) scores (Physical symptom score; CPHYS, Psychological symptom score; CPSYCH and sum of CMSAS scores; CSUM)
SS130 [Pulmonary and Pleural Malignancies]

Prognostic Affect of the Chronic Obstructive Pulmonary Disease on the Locally-Advanced Non-Small Cell Lung Cancer

Fatma Yıldırım, Murat Türk, Ahmet Selim Yurdakul, Can Öztürk
Gazi University Faculty of Medicine, Department of Pulmonary Medicine, Ankara

AIM: In this study, we aimed to investigate the association of COPD with locally-advanced stage non-small cell lung cancer (NSCLC) in terms of frequency, gender distribution, tumor histology, and its effect on the survival of patients.

MATERIALS-METHODS: Files of 350 patients who were followed-up and treated in our thoracic oncology unit between March 2009-May 2013 were retrospectively analyzed. Patient demographic characteristics (age, gender), smoking, ECOG status, time of diagnosis, TNM stage, tumor histological types, pulmonary function test (PFT) values, treatment and survival of them were recorded. Locally-advanced-stage (according to 7th TNM staging) non-surgical 137 patients were included in the study. The patients with COPD which confirmed with clinically and PFT were identified.

RESULTS: Total 137 patients with the mean age of 63±10 were included. 118 (86.1%) of them were male, 19 (13.9%) were female. 20 (14.6%) patients had stage IIIA, 27 (19.7%) had stage IIIB, 90 (65.7%) had stage IV. At diagnosis, 61 (44.6%) of them had COPD. There was no difference between groups with COPD and without COPD in terms of age, gender, tumor histology and treatment modalities (p>0.05). The amount of smoking was higher in the COPD group (p=0.028). There was no difference between the groups with COPD and without COPD in terms of survival that was investigated with Kaplan-curves and log-rank test (p=0.445). When it was evaluated with logistic regression analysis, the presence of distant metastasis was detected as a factor affecting the prognosis (p=0.008), but the presence of COPD was not a significant factor affecting the prognosis (p=0.543).

CONCLUSION: In patients with locally-advanced NSCLC, the presence of COPD hasn’t been identified as a factor affecting the prognosis of patients.

Keywords: Non-small cell lung cancer, COPD, prognosis
**SS131**[Pulmonary and Pleural Malignancies]

**lung resection after induction treatment: morbidity and mortality**

Hüseyin Melek¹, Gamze Çetinkaya¹, Mehmet Muharrem Erol¹, Ahmet Sami Bayram¹, Adem Deligönül², Türkkan Evrensel², Süreyya Sarhan³, Elif Akyıldız⁴, Cengiz Gebitekin¹
¹Uludag University, faculty of medicine, Thoracic surgery, Bursa, Turkey
²Uludag University, faculty of medicine, Medical oncology, Bursa, Turkey
³Uludag University, faculty of medicine, Radiation oncology, Bursa, Turkey
⁴Uludag University, faculty of medicine, Pathology, Bursa, Turkey

**BACKGROUND:** This study was conducted to search the effect of lung resection after neoadjuvant therapy on morbidity and mortality in patients with NSCLC.

**METHODS:** All lung resection performed for NSCLC between 1998 and 2012 were retrospectively reviewed. Patients with other malignancies and completion pneumonectomy were excluded and 732 patients were reviewed. Neoadjuvant treatment was given to 246 patients (group I) who had T3-4N0-1 or T1-3N2 NSCLC. The lung resection without neoadjuvant treatment was performed in 486 patients with NSCLC (group II). All results (morbidity, mortality) were compared between the groups.

**RESULTS:** All but 73 patients were female with a median age of 57y (range, 27-90). Pneumonectomy was performed in 121 (16,5%). The median hospital stay was 6,4 (range, 1-33) days. Chemotherapy was applied in preoperative 156 (63,5%) whereas chemoradiation in 90 (36,5%) patients. Left pneumonectomy was performed in 32 (68%) patients after neoadjuvant treatment. The 90 days mortality in group I was 2,8% and 3,3% in group II and 31% of patients (group I: 30%, group II: 31,5%) had complications. The most frequent morbidity in all group were prolonged air leakage, atelectasis and arrhythmia. The difference was not found statistically significant.

**CONCLUSIONS:** Our results confirmed that lung resection after induction therapy is a safe procedure with an acceptable morbidity, mortality rate.

**Keywords:** Neoadjuvant treatment, lung resection, mortality, morbidity
Retrospective Evaluation of 100 Patients With Sarcoidosis In Gazi University

Filiz Sadi Aykan¹, Haluk Türktaş², Nurdan Köktürk², Serpil Yeni Akten³
¹Section of Chest Diseases, Ankara Numune Training and Research Hospital, Ankara, Turkey
²Department of Chest Diseases, Gazi University Faculty of Medicine, Ankara, Turkey
³Section of Chest Diseases, Akşehir State Hospital, Konya, Turkey

OBJECTIVE: We aimed to evaluate the characteristics of patients with sarcoidosis in terms of diagnosis, management, follow-up and clinical features.

METHODS: Demographics, laboratory, clinical and radiologic findings of 100 patients managed between 1994-2010 were evaluated retrospectively.

RESULTS: Mean age at diagnosis was 44±12years (22-82), female/male ratio of 2.8, age at diagnosis were similar between the genders. Most common complaints were dyspnea, cough and skin problems. Smoking habit was encountered in %50 of men and %17 of woman, we concluded that smokers admit with an advanced disease (p=0.006). Familial sarcoidosis was found as 3%. Thoracic CT scan was employed in %96. No relation was observed between stage and ACE, erythrocyte sedimentation rate (ESR) and urinary calcium levels. Pulmonary function test (PFT) was abnormal in %34 of patients with predominantly restrictive pattern, %49 of these patients had decreased DLCO values. A significant relation was encountered between disease stage and decreased values of FEV1, FVC and DLCO (p<0.01). While diagnoses were achieved relying upon laboratory, clinical and radiologic findings in %16, rest of the patients had undergone additional invasive diagnostic tools. Most commonly performed invasive diagnostic methods were transbronchial biopsy (%34), bronchoscopic mucosal punch biopsy (%31), mediastinoscopic or transbronchial mediastinal lymph node biopsy (%22 and %9 respectively). Totally %43 of the patients received treatment. Relapse was encountered in 18(%18) patients and more commonly in advanced disease and treated patients (p<0.01 and p=0.04, respectively).

CONCLUSION: Sarcoidosis is multi-system involving disease with a wide spectrum of clinical features and must be considered in differential diagnosis with its most common and also rare findings.

Keywords: sarcoidosis, interstitial lung disease, diagnosis, treatment

<table>
<thead>
<tr>
<th>Table 1 General characteristics of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients number</td>
</tr>
<tr>
<td>Gender, n(%)</td>
</tr>
<tr>
<td></td>
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<tr>
<td>Age, mean±SD (range), year</td>
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<tr>
<td>Age distribution of patients, n(%)</td>
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<td></td>
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<td></td>
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<td></td>
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<tr>
<td>Occupation groups, n(%)</td>
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<tr>
<td>Smokig status at diagnosis, n(%)</td>
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<tr>
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<td></td>
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<tr>
<td>Ex-smoker</td>
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<tr>
<td>Stating at diagnosis</td>
</tr>
<tr>
<td>Stage 0</td>
</tr>
<tr>
<td>Stage 1</td>
</tr>
<tr>
<td>Stage 2</td>
</tr>
</tbody>
</table>
Comparison of cases with sarcoidosis followed-up in ankara and adana hospitals of baskent university

Mustafa Ilgaz Doğrul¹, Elif Küpeli¹, Mehmet Ali Habeşoğlu², Aylin Özşancak Uğurlu³, Nazan Şen², Füsun Öner Eyüboğlu¹
¹Department of Pulmonary Medicine, Baskent University, Ankara, Turkey
²Department of Pulmonary Medicine, Adana Teaching and Medical Research Center, Baskent University, Adana, Turkey
³Department of Pulmonary Medicine, Istanbul Teaching and Medical Research Center, Baskent University, Istanbul, Turkey

AIM: Comparison of clinical and laboratory findings, distribution of radiologic staging and extrapulmonary involvement of cases with sarcoidosis living in different geographical regions.

METHODS: Retrospective analysis of patients followed-up with sarcoidosis at Baskent University Ankara and Adana Hospitals between 2005 and 2013, based on medical records.

RESULTS: A total of 103 patients with sarcoidosis (26 from Ankara, 77 from Adana) with a mean age of 46.5±12.0 years were enrolled into our study. Two groups were similar in terms of age, gender, smoking history, respiratory symptoms and physical examination findings. The difference of radiological staging of Adana (2, 29, 44 and 2 patients with stage 0, I, II and III, respectively) and Ankara (13, 12 and 1 patients with stage I, II and III, respectively) groups was not statistically significant. Extrapulmonary involvement was observed in none of the cases from Ankara and in 33 patients (42.8%) from Adana, including peripheral lymph nodes (n=4), skin (n=16) and eyes (n=13). High ACE levels, hypercalciuria, hypercalcemia, and CD4/CD8>3.5 were established in 51.3 (41/80), 23.8 (24/101), 4.9 (5/102) and 70 (28/40) % of all patients evaluated for these parameters, respectively; whereas first two were detected more frequently in Adana group (p<0.001 and p<0.05, respectively).

CONCLUSION: Significant difference in rates of high serum ACE levels, hypercalciuria and extrapulmonary involvement between groups emphasizes the presence of geographical variation in sarcoidosis. Studies manifesting geographical distribution and differences of clinical and radiological findings of sarcoidosis in Turkey, including all regions with adequate number of patients, will further enlighten this topic.

Keywords: geographical variability, interstitial lung disease, sarcoidosis
**Clinical Problems**

**Sample sites for the histological diagnosis of sarcoidosis: Ege University experience**

Zehra Nur Töreyin¹, Nesrin Moğulkoç¹, Pervin Ekren¹, Feza Bacakoğlu¹, Tuncay Göksel¹, Sait Eğrilmez³, Ali Veral³

¹Department of Chest Diseases, Ege University, İzmir, Turkey  
²Department of Ophtalmology, Ege University, İzmir, Turkey  
³Department of Pathology, Ege University, İzmir, Turkey

Ege University Hospital Interstitial Lung Disease Outpatient Service has followed 137 patients with sarcoidosis since 2000. The median age was 47 years (range 24-73), females 102 (75%). The median follow up was 27 months (range 0 to 160). Initial serum ACE was measured in 103 patients with a median level of 61 U/L (range 3-316, normal 8-52). Chest x-ray most commonly showed class 0 in 3% (4 cases), class I in 52.5% (72 cases) or class II in 37.2% (51 cases), class III in 3.6% (5 cases), class IV in 3.6% (5 cases). Of the 95 cases which had BAL showed alveolitis, lymphocytic in 56%, neutrophilic in 11%, mixed 1% and eosinophilic in 1%, normal 23%, unreportable in 8%. A histopathological diagnosis was made in 101 patients. Patients were generally subjected first to a conjunctival biopsy and bronchoscopic sampling and, if this was not diagnostic, to a surgical biopsy. The numbers and diagnostic yields of the variable modalities of biopsy were as shown in the Table.

Conjunctival biopsy spares one third of patients with compatible clinical and radiological features of sarcoidosis a further procedure.

**Keywords:** Conjunctival biopsy, histological diagnosis, sarcoidosis,

**The numbers and diagnostic yields of the variable modalities of biopsy**

<table>
<thead>
<tr>
<th>Biopsy Type</th>
<th>Number performed (n)</th>
<th>Number diagnostic (n)</th>
<th>Number diagnostic (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conjunctiva</td>
<td>50</td>
<td>17</td>
<td>34,0</td>
</tr>
<tr>
<td>Transbronchial Blind Needle Aspirate</td>
<td>37</td>
<td>7</td>
<td>18,9</td>
</tr>
<tr>
<td>Bronchial mucosal</td>
<td>35</td>
<td>8</td>
<td>22,9</td>
</tr>
<tr>
<td>Scalene</td>
<td>29</td>
<td>19</td>
<td>65,5</td>
</tr>
<tr>
<td>EBUS</td>
<td>27</td>
<td>12</td>
<td>44,4</td>
</tr>
<tr>
<td>Transbronchial Biopsy</td>
<td>20</td>
<td>4</td>
<td>20,0</td>
</tr>
<tr>
<td>Mediastinal Biopsy</td>
<td>17</td>
<td>13</td>
<td>76,5</td>
</tr>
<tr>
<td>Surgical Lung</td>
<td>13</td>
<td>9</td>
<td>69,2</td>
</tr>
<tr>
<td>Peripheral LN</td>
<td>12</td>
<td>8</td>
<td>66,7</td>
</tr>
<tr>
<td>Lip</td>
<td>9</td>
<td>4</td>
<td>44,4</td>
</tr>
<tr>
<td>Nasopharynx</td>
<td>8</td>
<td>3</td>
<td>37,5</td>
</tr>
<tr>
<td>Liver</td>
<td>5</td>
<td>4</td>
<td>80,0</td>
</tr>
<tr>
<td>Spleen</td>
<td>4</td>
<td>3</td>
<td>75,0</td>
</tr>
<tr>
<td>Parotid</td>
<td>2</td>
<td>0</td>
<td>0,0</td>
</tr>
</tbody>
</table>
Could HLA-DR B1*11 allele be a clue for predicting extra-pulmonary sarcoidosis?

Ezgi Özyılmaz¹, Özlem Öztürk², Dilek Yünsel¹, Gulşah Seydaoglu³, İsmail Hanta¹, Sedat Kuleci¹, Ali Kocabaş¹
¹Cukurova University Faculty of Medicine Department of Pulmonary Disease
²Cukurova University Faculty of Medicine Department of Biochemistry
³Cukurova University Faculty of Medicine Department of Biostatistics

BACKGROUND: Several HLA-DR alleles has been described as a potential risk factor for sarcoidosis between distinct ethnic groups however the relationship between HLA-DR alleles and extra-pulmonary sarcoidosis (EPS) is still scarce.

OBJECTIVES: The aim of this prospective study is to investigate the relationship between extra-pulmonary involvement and HLA-DR genetic analysis in Turkish patients with sarcoidosis.

METHODS: In this study, we HLA-typed sarcoidosis patients with and without extra-pulmonary involvement, and compared with healthy control subjects. The presence of EPS was evaluated with previously defined standard criteria (ACCESS) and only patients with definite and probable involvement were accepted as positive. Sequence Specific Oligonucleotide Probes method was used for typing of HLA-DRB1 alleles from DNA samples in both groups.

RESULTS: The frequency of HLA DRB1*15 allele was more frequent in patients with sarcoidosis than controls (%20.4 vs %9.6)(pcorr=0.017). According to multivariate analysis (MVA), the presence of HLA DRB1*15 was indicated as an independent risk factor for sarcoidosis (OR:2.37; 95% CI:1.31-4.30, p=0.004). Extra-pulmonary involvement was present in 39 patients (42.9%). When the patients with and without extra-pulmonary involvement compared, HLA-DRB1*11 allele was significantly higher in patients without extra-pulmonary sarcoidosis which may be concluded as a protective allele for systemic involvement (%30.8 vs. %15.4)(p<0.05). This result was also confirmed with the MVA (OR:0.35, 95% CI:0.15-0.84, p=0.018).

CONCLUSIONS: We demonstrated a strong positive link between the haplotype HLA DRB1*15 and sarcoidosis in a Turkish population and a potential protective effect of HLA DRB1*11 from extra-pulmonary involvement. Predicting extra-pulmonary sarcoidosis may affect treatment decisions and improve prognosis in these patients.

Keywords: Extra-pulmonary involvement, HLA-DR allele, Sarcoidosis
SS136[Clinical Problems]

The clinical significance of hematologic parameters in patients with sarcoidosis

Nigar Dirican¹, Ceyda Anar², Şule Kaya¹, H. Ahmet Bircan¹, Hüseyin Halıçolar², Münire Çakır¹

¹Department of Chest Diseases, Suleyman Demirel University, Isparta, Turkey
²Department of Chest Diseases, Dr. Suat Seren Chest Diseases and Surgery Training and Research Hospital, İzmir, Turkey

AIM: Sarcoidosis is a multisystemic inflammatory granulomatous disease of unknown etiology. The aim of this study is to evaluate the potential usefulness of hematologic markers for following the disease.

MATERIAL-METHOD: We investigated 172 subjects: 116 patients with sarcoidosis and 56 healthy individuals. The demographics, complete blood count, serum inflammatory markers and pulmonary function test data of sarcoidosis patients were recorded retrospectively. The cut-off values of Mean platelet volume (MPV) and NLR (neutrophil/lymphocyte ratio) which are used for discriminating the healthy ones from patients were determined by calculating the Receiver Operating Characteristic (ROC) method.

RESULTS: Demographic and laboratory values of the patients can be seen in the table. The cut-off value was determined as 2 and 8.95 for NLR and MPV, respectively. NLR in patients was significantly higher than the NLR in healthy individuals (p<0.0001, figure 1). The probability of high NLR (≥2) in sarcoidosis patients was determined greater than control group (p<0.001). Moreover, high NLR was detected higher in pulmonary involvement in patients. ROC curve analysis which is done according to the determined cut-off value, the area under the curve 0.83 (CI 68.8-88.4 %), 80 % sensitivity, 59 % specificity is determined (figure 2). RDW, CRP, MPV and pulmonary function tests were not different between control and patients groups.

CONCLUSIONS: NLR can be a high sensitivity and mid specificity biomarker to determine the severity of the disease in pulmonary sarcoidosis and in predicting the extrapulmonary involvement. Besides there is a need for a prospective study with the participation of more patients for supporting our results.

Keywords: sarcoidosis, prognosis, neutrophil-to-lymphocyte ratio

Figure 1

*NLR in patients with stage 0-1 and stage 2-3 sarcoidosis, patients with all stage, healthy individuals. Data are presented as mean ± SEM. *P < 0.001, when compared with sarcoidosis (stage 0-1, stage 2-3, all stage) and healthy individuals; # P < 0.05, when compared with sarcoidosis stage 0-1 and stage 2-3. P < 0.05 was statistically significant.
**Figure 2**

ROC (Receiver Operator Characteristic) curve showing specificity and sensitivity percentages of NLR in sarcoidosis patients. Area under the curve 0.83, NLR cut-off value 2, sensitivity 80 %, specificity 59 %.

**Table**

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>Sarcoidosis (stage 0,1)</th>
<th>Sarcoidosis (stage 2,3)</th>
<th>p</th>
<th>Sarcoidosis (all stage)</th>
<th>p#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>56</td>
<td>56</td>
<td>60</td>
<td></td>
<td>116</td>
<td></td>
</tr>
<tr>
<td>Age, mean (SD)</td>
<td>49 (12.1)</td>
<td>47.2 (11.15)</td>
<td>48.3 (10.9)</td>
<td>0.07</td>
<td>47.81 (11.0)</td>
<td>0.06</td>
</tr>
<tr>
<td>Sex, female (%</td>
<td>41 (23.8)</td>
<td>41 (23.8)</td>
<td>44 (25.6)</td>
<td>0.985</td>
<td>85 (49.4)</td>
<td>0.993</td>
</tr>
<tr>
<td>Laboratory</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>findings*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NLR</td>
<td>1.82</td>
<td>2.49 (1.24)</td>
<td>3.02 (1.47)</td>
<td>&lt;0.001</td>
<td>2.67 (1.27)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>MPV, fl</td>
<td>8.1 (1.1)</td>
<td>8.3 (1.5)</td>
<td>8.3 (1.3)</td>
<td>0.091</td>
<td>8.3 (1.4)</td>
<td>0.030</td>
</tr>
<tr>
<td>RDW, fl</td>
<td>14.2 (1.9)</td>
<td>14.4 (2.3)</td>
<td>14.5 (2.1)</td>
<td>0.725</td>
<td>14.0 (2.2)</td>
<td>0.400</td>
</tr>
<tr>
<td>CRP, mg/dl</td>
<td>3.3 (3.9)</td>
<td>2.5 (5.5)</td>
<td>3.2 (8.4)</td>
<td>0.634</td>
<td>3.05 (6.2)</td>
<td>0.699</td>
</tr>
<tr>
<td>ESR mm/hour</td>
<td>11 (11)</td>
<td>20 (36)</td>
<td>26 (34)</td>
<td>&lt;0.001</td>
<td>22 (37)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

*Data are median (interquartile range). # All stage sarcoidosis patients vs control. NLR neutrophil-to-lymphocyte ratio. MPV Mean platelet volume. CRP C-reactive protein. ESR Erythrocyte sedimentation rate. P<0.05 was statistically significant.
Combined Pulmonary Fibrosis and Emphysema Syndrome: A New Phenotype Of Interstitial Lung Disease

Esma Sevil Akkurt¹, Emire Pınar Seyfettin¹, Şerife Savaş Bozbaş¹, Koray Hekimoğlu², Füsun Öner Eyüboğlu¹, Sule Akçay¹

¹Department of Pulmonary Diseases, Faculty of Medicine, Baskent University, Ankara, Turkey
²Departments of Radiology, Baskent University Faculty of Medicine, Ankara, Turkey

Combined pulmonary fibrosis and emphysema (CPFE), a distinct clinical entity characterized by the simultaneous coexistence of upper lobe emphysema and lower lobe pulmonary fibrosis. Recent studies of CPFE consistently have revealed a strong association with cigarette smoking and have reported a male predominance. This syndrome frequently is complicated by pulmonary hypertension, acute lung injury, and lung cancer. In our study, we aimed to investigate that patients are considered CPFE of the demographic characteristics, parameters of pulmonary function tests, thoracic CT, and complications. Patients record and file information were reviewed retrospectively whose was admitted to our center, with their thoracic CT scan between 2003-2013. 58 patients were included in this study with upper lobe emphysema, and especially in the lower lobe of fibrosis in thoracic CT scan. 85% of patients were male and the mean age was 74.2±9.7. Smoking history was present in 49 patients, and the average was 38.7±19.2 pack-years of smoking. The most common reason for admission of patients with dyspnea. In 31 patients predominantly upper lobe emphysema, in 27 patients diffuse emphysema, in 45 patients predominantly lower lobe emphysema and in 13 patients common emphysema was detected in thoracic CT scan. 48.3% of patients had hypoxemia in arterial blood gases. 6 patients had a diagnosis of lung cancer. Pulmonary function tests parameters examined of 34 patients who can cooperate to test. The parameters: FVC 104.3±27.5, FEV1 84.2±25.8, FEV1/FVC 63.6±13.8 and DLCO 76.2±27.05. There is no consensus about its treatment since those published to date on this issue are limited to well-characterised series of cases; hence, a better understanding of this entity may help in the development of future therapeutic approaches.

Keywords: Emphysema, Fibrosis, Smoking
Eosinophilic lung diseases (ELD) are a heterogenous group of rare pulmonary disorders characterized by increased numbers of eosinophils in the airway or parenchyma. Twelve patients diagnosed as ELD between 2004-2013 in our clinic [4(33%) Churg-Strauss syndrome (CSS), 7(58%) chronic eosinophilic pneumonia (CEP), 1(%9) simple pulmonary eosinophilia (Loeffler's syndrome)] were retrospectively evaluated.

Four cases were male, 8 female and the mean age was 43(28-72). All cases were under asthma treatment by the time (2 months-40 years). Four cases had sinusitis, 1 allergic rhinitis additionally. The most common symptoms were shortness of breath (n = 11) and cough (n=9) for 2 months (15 days-1.5 years). Peripheral eosinophilia was present in all cases, also 10 leukocytosis, 4 anemia, 4 thrombocytosis were recorded. Total IgE was high in all cases (206-23000). Carbon monoxide diffusing capacity was lower than normal in 43%. Radiological findings are shown in Table-1, Picture-1.

Bronchoalveolar lavage eosinophilia was remarkable in 7 of 10 cases while infiltration consiting eosinophils in 6 of 8 in transbronchial biopsy.

For the CSS cases, 1 had nasal polyps, 1 sinusal pathology, 1 polyneuropathy-cardiac involvement-sinusal pathology, 1 pericardial effusion and skin involvement additionally. The simple pulmonary eosinophilia was diagnosed on the basis of the medical history and improved with antiparasitic treatment.

Prednisolone treatment was started in all cases except Loeffler's. Six cases (CSS:3, CEP:3) recurred, 1 case died (CSS). One case did not accept treatment despite ongoing peripheral eosinophilia, 4 are stable under treatment, while the other cases are stable during drug-free follow-up.

Keywords: Churg-Strauss syndrome, chronic eosinophilic pneumonia, Loeffler's syndrome
### Table-1: Cases' radiological findings

<table>
<thead>
<tr>
<th></th>
<th>Churg-Strauss syndrome (n=4)</th>
<th>Chronic eosinophilic pneumonia (n=7)</th>
<th>Simple pulmonary eosinophilia (n=1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bilateral involvement</td>
<td>3</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Involvement in all zones</td>
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Cryptogenic organizing pneumonia: Clinical, radiologic features and treatment results of 11 patients

Elif Yelda Özgün Niksarlioğlu, Gülcihan Özkan, Güngör Çamsarı, Nur Dilek Bakan, Ayşe Yeter, Deniz Bilici, Serpil Başgüden, Gülten Emel Tas
Yedikule Chest Disease and Thoracic Surgery Education and Training Hospital, Istanbul

Cryptogenic organizing pneumonia (COP) is an entity of unknown aetiology that characterized granulation tissue in distal airways. We retrospectively analyzed 11 patients with histopathologically diagnosed COP. The clinical presentation, radiographic studies, pulmonary function tests, diagnosis methods, treatment and outcome were investigated. Mean age was 50±9.4 years (range 36-69) and 6 patients were women. One patient was current smoker, 2 were exsmoker and 6 had a history of passive smoker. The common symptoms were cough (n=10), dyspnea (n=6) and sputum (n=3). The most common radiological pattern was consolidation in the right lower lobe and left lower lobe on computed tomography (%60). Pulmonary function tests were performed in 8 patients, one patients had obstructive patern, 4 patients had restrictive and other had normal patern. In seven patients, COP was diagnosed with open lung biopsy (%63.6) and the others was diagnosed on the basis of transbronchial biopsy. The median follow-up period was 3-121 months. Nine patients were used oral corticosteroid that 7 patients were finally resolved without any fibrotic changes; 1 patients didn’t want to use any treatment and his chest X-ray was normal after 20 months. Last patient was treated with clarithromycin and inhaled corticosteroid-long acting betamimetic combination that lesion on the lung was partially resolved during 2 months; but after that progression was detected in radiology.

We want to demonstrate clinical, radiological features and treatment results in eleven patients with COP.

Keywords: cryptogenic organising pneumonia, follow-up, radiology,