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432. General thoracic surgery II

P4320**Long-term results of surgically treated non-small cell lung cancer patients depending on the protocol of preoperative N-staging**

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Preoperative N-staging is one of the most important aspects in management of non-small cell lung cancer (NSCLC) patients because it has a crucial impact on prognosis of patients and helps to choose the optimal treatment plan.

The aim of our study was to evaluate and compare long-term results of operated NSCLC patients with different preoperative N-staging protocols.

Material and methods: 319 patients with resectable NSCLC were operated in our center in 2003-2008. In group 1 all patients preoperatively underwent mediastinoscopy in addition to non-invasive staging procedures (CT and PET), whereas in group 2 N-staging protocol included only CT and PET. Final TNM stage was verified based on intraoperative findings including mediastinal lymph nodes dissection. Long-term survival was assessed by Kaplan-Meier method.

Results: In group 1 significantly less unforeseen N2 were revealed during intraoperative lymph nodes dissection in comparison to group 2 (10% vs 27%, respectively, $p < 0.05$), the rate of uncertain resections was also lower in group 1 than in group 2 (5% vs 14%, respectively, $p < 0.05$). Analysis of long-term results showed better survival in group 1 than in group 2 (5-yr survival 61% vs 43%, respectively, $p < 0.05$). This difference was more prominent in patients with central NSCLC (5-yr survival 65% vs 39%, respectively, $p < 0.01$).

Conclusion: Our findings suggest that including mediastinoscopy in preoperative N-staging protocol of potentially operable NSCLC patients improves the selection of surgical candidates by excluding patients with extended disease, that results in better long-term survival of operated patients.

P4321**The evaluation of surgical results in pT0-pT1 non-small cell lung carcinoma after induction therapy**

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There are good results in locally advanced non-small cell lung carcinoma (NSCLC)

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surgically treated after induction therapy. We aimed to detect the role of PET-CT on recurrence, survival and preoperative assessment in surgically treated pT0-T1N0M0 after induction therapy.

Of the patients, stage IIB, IIIA and IIIB NSCLC, undergone pulmonary resection after neoadjuvant chemotherapy or radiotherapy, pT0N0 and pT1N0 were included. There were 54 patients with an average age of 59.2 years, 25 pT0N0 and 29 pT1N0. The median follow up was 34.8 months where mean survival time and 5-year survival rate were 90.8 months and 86.3%, 62.6 months and 53.7% ($p=0.1$), respectively. There were one (4%) local recurrence in T0 and eight (27.6%) (3 local, 4 distant and one local plus distant) in T1 ($p=0.03$). 18 patients preoperatively assessed with PET-CT, the sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) were 78%, 56%, 64% and 71%. NPV in T0 and PPV in T1 were 100%. The accuracy in T0 and T1 were 56% and 78% ($p=0.3$). The survival of the pT0N0 and pT1N0 NSCLC who had surgical resection after induction therapy are similar with those had resection without induction. The success of PET-CT to reveal pT0, with no live tumor cell, and pT1 preoperatively, is lower.

P4322

Inspiratory capacity is a new preoperative risk predictor in the patients with lung cancer undergoing surgical resection

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Since surgical complications implicate an enormous economic burden as a result of patient's unexpected treatments and prolonged postoperative stay (PPS), we face an urgent need to establish preoperative pulmonary assessment to prevent pulmonary complications. We retrospectively evaluated 412 cases of the patients who underwent major lung resection in Nagoya University hospital to determine the new predictor to elucidate the risk for PPS. Chronic obstructive lung disease (COPD), irrespective of the degree of symptoms, was confirmed to be one of the most important risk factors in PPS, for patients with major lung resection. Since mounting evidences suggested that the disease severity of COPD might be strongly associated with inspiratory capacity (IC), we evaluated whether IC, measured by spirometry, could be applied to elucidate the risk for PPS in the patients. The multivariate analysis demonstrated that %IC was one of the most critical and independent risk predictors for PPS. Our data suggested that %IC might be an additional risk predictor for PPS in patients undergoing major lung resection, irrespective of COPD status.

P4323

The clinical importance of preoperative incentive spirometry value in lung resections

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Aim: It has been aimed at investigating the relationship between the value determined with incentive spirometry (IS), which is used frequently to improve lung expansion after thoracic surgery, and clinical symptoms, pulmonary functions, and exercise capacity data; and if there is a relationship between these, discussing the importance and applicability of IS value during clinical follow up in patients with lung resection candidates.

Material-method: Twenty-two patients (6F, 16M; mean age 60.82±8.28 years) diagnosed with lung cancer (50% stage I, 31.8% stage II-III) and followed with lung resection indication were assessed. The clinical characteristics and respiratory symptoms were asked. Maximal IS value (ml) was measured with IS. Pulmonary function test and 6-minute walking test were done.

Results: The mean maximal IS, FEV₁%, inspiratory capacity (IC), Pimax%, Pemax%, and 6MWD values were 3047±831.49ml, 76.71±15.74, 2.25±0.42, 63.53±13.67, 84.12±23.46, and 480.00±94.39m, respectively. There were effort dyspnea (31.8%), fatigue (40.9%), secretion (22.7%), cough (22.7%), and chest pain (4.5%) in patients. It was determined that maximal IS value was correlated with cough symptom ($\rho=0.43$, $p=0.05$), FVC ($\rho=0.48$, $p=0.03$), FEV₁ ($\rho=0.63$, $p=0.003$), IC ($\rho=0.49$, $p=0.05$), and Pemax ($\rho=0.71$, $p=0.002$) values.

Conclusion: IS value represents pulmonary functions independent of demographic and functional characteristics of patients. Especially, due to the relationship of IS value with FEV₁, IC, and Pemax values, our results suggest that IS value may give information on the effective cough ability and thus IS value might be used during clinical follow up and routine care of patients with lung resection.

P4324

The role of PET/CT in lung cancer staging

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Routine preoperative examinations should contain PET/CT for proper staging.

Series have different results about its efficiency in mediastinal nodal staging. Here we aimed to determine the efficiency of PET/CT in mediastinal lymph node involvement of lung cancer in our clinic.

There were 91 patients (82 male, 9 female) with lung carcinoma who underwent operation for treatment or staging. Patients with PET/CT positive lymph node involvement underwent mediastinoscopy. Thoracotomy was performed in patients with operable disease. Age, sex preoperative diagnosis, diameter of tumor, localization of tumor, mediastinal lymph nodes, surgical procedure, postoperative pathologic examinations, SUV max values in PET/CT were reviewed. Clinical and postsurgery staging were compared.

The sensitivity and specificity of thorax CT in determining the pathological lymph nodes were found 39% and 63% respectively. Positive predictive value (PPV) was 32%, negative predictive value (NPV) was found as 70%. For PET/CT examination, sensitivity was 67%, specificity was 73%, whereas PPV and NPV were 50% and 80% respectively. PET/CT had 80% sensitivity, 91% specificity, PPV 36% and NPV 98% for detecting distant metastasis. Regarding satellite nodules PET/CT had 54% sensitivity, 91% specificity, 50% PPV and 93% NPV.

When clinical staging was compared with surgical staging results, PPV was lower for detecting N2 N3 metastasis. That's why biopsy was definitely needed. NPV of PET/CT was higher, the need of invasive staging methods was getting decreased. For unsuspected N2 and M1 disease PET/CT was very useful. PET/CT was found superior in detecting lymph node metastasis, more sensitive in distant metastasis and similar to find patients without metastasis when compared with CT alone.

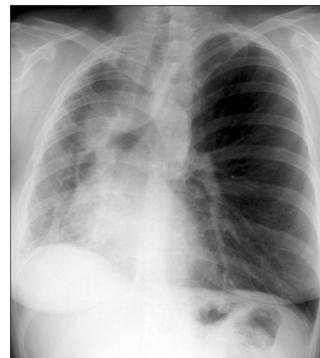
P4325

Omentoplasty for managing post-surgery complications of aspergilloma in a case of right pulmonary artery agenesis

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Background: The greater omentum pedicle flap transposition is not an uncommon treatment approach in thoracic surgery. This method is described as the final solution to save patient's life, after right pneumonectomy with subsequent complications.

Case report: A 32 years old woman admitted in our clinic in April 2010 for severe dyspnea, hemoptysis was diagnosed with right pulmonary artery agenesis and aspergilloma cavity. The patient had a sinuous clinical evolution: in 1999, she presented right infiltrative tuberculosis healed after six months treatment, but in the same year, when investigated again because of persistent lesions revealed on X-ray and CT, she was treated in ambulatory for repeated lower airways infections. On June 2010, the patient suffered a right pneumonectomy for aspergilloma complicating right pulmonary artery agenesis. Four weeks after surgery, she developed bronchial fistula and relapsed after a month. Two surgical interventions were necessary to resolve the bronchial fistula. The only solution to stop the recurrent complications was to use a greater omentum flap to cover the bronchial fistula. This surgical technique has proved effective for the first time with no complications after 5 months.



Conclusions: Omentoplasty allows improvement of treatment results, decrease of the complication frequency due to the anatomical, functional and vascular particularities of greater omentum.

P4326

Pseudotumoral lung tuberculosis – A controversial clinical and imagistic entity

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Objectives: Our aim is to signal the frequent existence of a clinical and imagistic entity inside the thoracic surgical pathology, easily mistaken preop. for lung cancer – the pseudotumoral lung TB.

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Method: Our clinic's experience in the surgery of tuberculosis is limited by the existence of an outside compartment, specialized in these types of surgeries. Between 2001–2010 we had 196 cases with postoperative diagnosis of TB. From these 196 cases we selected only 64 cases of tuberculomas, that had imagistic and clinical aspect of a lung malignant tumor.

All of these patients were admitted with a symptomatology unlike lung TB – weight loss, fatigue, hemoptysis, no fever, no previous infections or contact with TB patients, negative bronchoscopy, sputum cultures and Quantiferon test (3 patients). The CT images showed round tumoral formations, with poor limits and pathological mediastinal lymph nodes.



Results: From the 64 cases we had 9 lobectomies, 1 bilobectomy and 54 wedge resections. We had complications in 5 cases, one postoperative clot, 4 cases with prolonged air leaks that were treated by connecting to a water seal. The mortality was 0.

Conclusions: Lung TB resembles more frequently to lung cancer, both by localization in the lung and by clinical and imagistic aspect of the lesions, making a preoperative diagnosis extremely difficult. Wedge resections are very efficient in the surgical treatment of lung TB.

P4327

Particular form of the primary thoracic hydatidosis – Case report

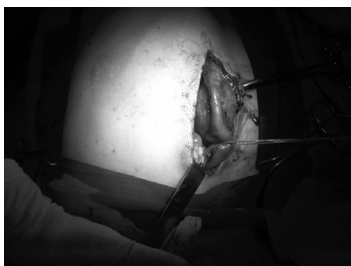
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Introduction: Hydatidosis is an important pathology with endemic character in Romania. Primitive and secondary thoracic forms are very frequently in the thoracic surgery services. Occasionally, we find forms with unusually debut and evolution.

Clinical features: The work presents the case of the patient with right nephrectomy for an idiopathic renal abscess, who was addressed to our service for a chystic tumor of the posterior thoracic wall.

Lab and imagistic studies: On blood examination, the total leucocyte count was 11000 cells UL⁻¹, with 2% eosinophilis. The CT scan indicated a tumor of the thoracic wall with mixed density which stretched between the angle of the scapula and the eight-nine costovertebral articulation without pulmonary touching and without intraabdominal or retroperitoneal collections.

Surgery: We made a posterior approach with a vertical incision in the right interscapulovertebral region. Intraoperatory, we find multiple hydatid cysts, with different dimension, who were localized in muscle of the wall thoracic and who arrived in the lumbar region. After inactivation with alcohol we excised the cysts and the pericysts and we applied a drainage of the restant space.



Postoperative outcomes: The postoperative evolution was very good with decharge of the patient in 5 days and with medical traitement.

P4328

The comparison of exercise test in patients with lung resection candidates

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Aim: It has been aimed at investigating the consistency of the maximal cardiopulmonary exercise test (CPET), 6-minute walking test (6MWT), and stair climbing test (SCT) results with each other and discussing the applicability of these submaximal field tests in patients with lung resection surgery indication.

Material-method: The maximal cycle ergometry, 6MWT, and SCT tests were done in 22 lung cancer patients (6F, 16M) followed with lung resection surgery indication. maxVO₂ value was calculated indirectly using indirect formulas for 6MWT and SCT. Peripheral oxygen saturation (SpO₂) and heart rate values were recorded using pulse oximetry during tests.

Results: The mean maxVO₂ values were 16.07±2.70ml/kg/min (for CPET), 24.44±4.09 ml/kg/min (for SCT), and 18.38±2.83 ml/kg/min (for 6MWT). It was determined that heart rate increased (heart rate difference; for CPET=38.20±14.67, 6MWT=20.48±9.06, SCT=49.86±11.56, p<0.05) and SpO₂ reduced (SpO₂ difference; for SCT=3.14±1.56 and 6MWT= 1.48±2.52 için p<0.05, CPET=3.95±10.30, p=0.10) after these tests. It was found that CPET maxVO₂ was correlated with 6MWT and SCT maxVO₂ (between CPET and SCT, rho=0.59, p=0.01; between CPET and 6MWT, rho=0.53, p=0.02). In addition, it was determined that there were correlations only between CPET and SCT in respect to load and work values (rho=0.70, p=0.001).

Conclusion: Due to correlation between indirectly calculated maxVO₂ value with SCT and CPET maxVO₂ value, our results suggest that SCT and CPET maxVO₂ value may be applicable during patient follow up and treatment. Also, 6MWT can be used related to lower hemodynamical stres level in conditions the application of CPET and SCT are not possible.

P4329

The effect of neoadjuvant chemoradiotherapy on airway colonization and post operative respiratory complications in the patients undergoing esophagectomy for esophageal cancer

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Background: Different treatments are performed for esophageal cancer, but surgery is still the base of treatment. Respiratory complication is the important postoperative complications of esophageal cancer.

Methods: In this study 40 patients who were candidates for surgery of esophageal cancer were placed into two groups of with or without neoadjuvant therapy. Before surgery, they underwent bronchoscopy and bronchoalveolar lavage. The samples were analyzed for airway colonization and then the patients underwent the surgery and were postoperatively evaluated in respiratory complications and the effects of preoperative neoadjuvant therapy.

Results: M/F=23/17 and mean age was 61 years. 22 cases had cancer in the middle and 18 in the lower part of the esophagus. 25 cases had SCC and 15 had ACC. In evaluation, no organism was found in 9 cases (22.5%) and positive cases of microbial culture was found in 31 cases (77.5%). Significant relation was observed between airway positive microbial colonization and neoadjuvant therapy but no significant relation was found between neoadjuvant therapy and major respiratory complications such as pneumonia, ARDS. There was significant relation between difficult weaning and airway colonization, but no significant relation was found between length of hospitalization in ICU and receiving neoadjuvant therapy. Two deaths were reported due to myocardial infarction in the postoperative days. There was no death due to respiratory complications.

Conclusion: Neoadjuvant therapy can use safe and it does not cause postoperative major pulmonary complications and related mortality.

P4330

The comparison of the findings of preoperative PET-CT and surgical pathology in patients with non-small cell lung cancer those with and without induction therapy

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PET-CT has been widely used to evaluate the response to induction therapy in lung cancer. We aimed to reveal the accuracy of PET-CT in defining the pathological response to chemotherapy/radiotherapy and compare with patients operated without induction therapy in non-small cell lung carcinoma (NSCLC).

Patients, performed lung and mediastinal lymph node dissection for NSCLC, after a staging procedure with PET/CT, were included. In first group, patients had had induction therapy for a stage IIIA and IIIB disease, before PET-CT. In the

second, patients had surgical resection after PET-CT evaluation. The postoperative histopathological and preoperative PET-CT findings were compared.

There were 58 patients in group 1 and 159 patients in group 2. The sensitivity, positive predictive value (PPV) and accuracy of PET-CT for primary tumor were 92%, 92%, 86% in group 1 and 99%, 100%, 99% in group 2. In group 1, the specificity and negative predictive value (NPV) were 50% and 50%. For N2 disease; the sensitivity, specificity, PPV, NPV and accuracy were 44%, 88%, 58%, 80%, 76% in group 1 and 43%, 89%, 16%, 97%, 87% in group 2. The sensitivity, PPV and accuracy of primary tumor and NPV and accuracy of N2 disease were significantly lower at group 1.

In patients with NSCLC those had had induction therapy, the negativity of PET-CT should be examined better than the patients those had not had preoperative therapy and it should not be avoided to perform invasive staging procedures. The positivity of lymph nodes in PET-CT should be confirmed by histopathology. When PET-CT findings after induction therapy is used, NPV and accuracy is lower.

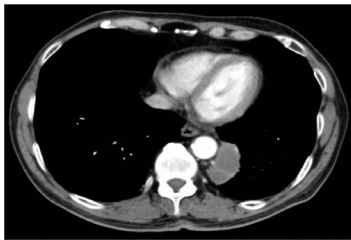
P4331

A case of pulmonary sequestration behaves as cyst hydatid

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Pulmonary sequestration is an uncommon disease with non-functioning pulmonary tissue and anomalous systemic blood supply. Diagnosis depends on identification of abnormal systemic vessels. We report a case who went on thoracotomy due to cyst hydatid and the sequestration was diagnosed during the operation.

Case: A 68-year-old man complaining of a non-productive cough, stomach ache, nausea and vomiting, admitted to our clinic. He was diagnosed with hepatic cyst hydatid and was treated with surgery one year ago. Chest x-ray showed a prominence at aortic arch. Chest CT imaging was revealed a paraaortic lesion with suspicion about its density of cystic or solid which was located posteriorly.



This was thought again a hydatid cyst suitable with his medical history and an operation was planned. Left thoracotomy was performed. During the operation the lesion was detected as a sequestration. By histopathological study the lesion was confirmed to be a sequestration. In his 4th. month follow-up the patient remains asymptomatic with normal radiography results.

Aberrant feeding vessels cannot always be demonstrated by conventional CT. Moreover, volumetric helical imaging allows three dimensional reconstruction of data, may be useful in the demonstration and characterization of the lesions and also showing vascular structures. Pulmonary sequestration must be in mind for differential diagnosis of pulmonary lesions especially adjacent to vascular structures.

P4332

Abscessus pulmonum: Unexpected outcome of surgical treatment; a case presentation

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This paper presents a case of 12-year-old girl, who was admitted to the pulmonology department of the Clinic for children's illness KC Banja Luka in february 2010th year, because of the x-ray verified large tumor change in the left hemithorax. Insight into previous medical documentation, patient previously had two surgeries for a congenital deformity of the thoracolumbal spine. After admission in our



department, in a differential diagnosis, we have done chest CT. GI passage, the serology of Echinococcus granulosus, ultrasonography and laboratory analyses, after which the patient was referred to the surgical treatment at the Institute for Mother and child in New Belgrade.

During the surgery a abscess cavity filled with green colored compress was found, which had been present for 2.5 years since spine surgery.

P4333

Giant mediastinal atypical carcinoid tumor

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Fifty-one years old male with shortness of breath increased by effort since one year. The patient was smoking 30 packs of cigarette per year. Inspiration sounds were decreased on the left hemithorax. Pulmonary function test results were; FEV1: 2.21 L (60%), FVC: 3.22 L (70%), PEF: 3.71 L (42%), FEV 1/FVC: 68.6%. The computerized thorax tomography, showed a 155x127 mm soft tissue mass on the left anterior mediastinal region, pressing vascular structures, and heart, and causing atelectasis on the upper lobe. Incisional biopsy was taken from the mass via mediastinotomy at a different hospital; the pathology result was malignant diffuse lymphoma. PET-CT was applied for staging. 2R mediastinum hypermetabolic lymph node station, with 14.5 mm diameter was detected (SUV max: 5.4). The mass SUV max: was 8.7. Chemotherapy was applied to the patient with diagnose of lymphoma. However, due to lack of regression of mass, biopsy slides were reexamined; the diagnosis was changed to be carcinoid tumor. The mass was decided to be surgically removed by median sternotomy. The mass was quite vascular, and had tight adhesions between the lung and pericardium. The result of frozen section of the mass was reported to be atypical carcinoid tumor. The mass was removed totally. Mesh was placed instead of excised pericardium. The mass weight was 1300gr, size was 17.5x 15x 9.5 cm. No tumor was detected within surgical margins. Chromogranin, Synaptophysin, CK, and CD 56 was positive at the immunohistochemical panel. Microscopic findings were confirmed atypical carcinoid tumor. In conclusion, mediastinal carcinoid tumors are very rare. Their origin of tumor is difficult to determine. Surgery is the current treatment method.

P4334

Robotic-assisted thymectomy by da Vinci II versus sternotomy in the surgical treatment of non thymomatous myasthenia gravis

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Introduction: Thymectomy in myasthenia gravis is controversial. Remission rate 5 years after surgery in literature varies from 13 to 51%. Sternotomy is the standard technique, not acceptable because of significant esthetic sequelae. Our objective was to demonstrate that the robot-assisted technique is at least as efficient and leaves less scars than sternotomy.

Methods: We retrospectively reviewed data of 30 patients with myasthenia gravis operated on in our center from January 1998 to December 2009. Two groups were formed: group 1 corresponding to patients who received a sternotomy, group 2 patients the robotic-assisted technique. Hospital stay, pain on D1, 1 year improvement according to De Filippi, frequency of relapses, peri-operative treatment, have been particularly studied.

Results: We identified 13 women and 7 men. The mean age was 31 years old. The mean delay before surgery was 24,8 m. Group 1 consisted of 15 patients, group 2 of 5. Complete remission rate at 1 year was 5%. Surgery decreased the frequency of relapses equally in the 2 groups. Hospitalization stay and pain on D1 in group 2 were significantly lower than those in group 1 (p=0.04, p=0.001). Postoperative improvement was not significantly different between the 2 groups.

Conclusion: Results at 1 year of the 2 techniques are fully comparable. Robot provides additional benefits: minimal esthetic sequelae, less parietal morbidity, shorter hospital stays. Our complete remission rate, lower than those in the literature, must take into account the early nature of these results. The surgical robot appears to be a promising technique and should facilitate the early management of these patients.

P4335

Impact of neoadjuvant therapy on tumor resectability and survival of patients with locally advanced non-small cell lung cancer

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Background and aim: Surgery is the treatment of choice in early stage non small

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cell lung cancer (NSCLC). It is also used in some cases of locally advanced tumors, but with a low cure rate. Therefore, preoperative treatment is seeking to improve survival in these patients. The aim of this study was to evaluate tumor resectability and survival in patients with locally advanced stage (IIIA and IIIB) NSCLC treated with chemotherapy (CT) or chemotherapy and radiotherapy (CT-RT) neoadjuvant

Methods: This was a retrospective study that evaluated patients with locally advanced NSCLC in a university hospital during 2000-2006, that received induction therapy. The collected variables were anthropometric values, histology, stage of the tumor, neoadjuvant treatment and therapeutic response. Kaplan-Meier curve was used to evaluate survival and analysis of variance to compare values among groups.

Results: 32 patients were included; 9 subjects (28%) were diagnosed with stage IIIA and 23 (72%) stage IIIB, being the IIIB the most common indication for induction therapy. All patients were treated with CT, showing a treatment response in 80% of cases and only 7 were also required RT. Resection was indicated in 31 patients and only in 6 subjects exploratory thoracotomy was performed, seeing a downstaging in 46.9% of all the cases. Over-all 5 year survival was 27.8% with a median of 52.9 months (95% CI 38.1-67.6). This survival is dependent on the response to neoadjuvant.

Conclusions: Neoadjuvant reduces tumor size resulting in a downstaging and improving the resectability of locally advanced NSCLC. It could be a viable therapeutic option to improve survival of these patients.

P4336

Surgical treatment of combination of tuberculosis and pulmonary echinococcosis

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Results of surgical treatment of combination of TB and pulmonary echinococcosis were studied in 19 patients (males-11, females - 8) in ages 7-49 years old. Fibrous-cavernous TB was diagnosed in 4, infiltrative with lysis in 3, tuberculoma in 8, focal in 3, TB of intrathoracic lymph nodes in 1. In 9 patients echinococcosis cysts located within the zone of tubercular affect, in 10 in other lobes of lung, in 9 on the right, in 10 on the left. Cyst dimensions were 2 to 9 cm in diameter. In 4 with location of echinococcosis cyst in the zone of tubercular affect were operated - segmental resection was performed in 1, lobectomy in 2, lobectomy and pleurectomy in 1. In 7 who had TB and echinococcosis cyst in different lobes of lung, single-stage segmental resection and echinococcectomy was performed in 5, lobectomy and echinococcectomy in 1, combined resection and echinococcectomy in 1. After effective chemotherapy and repair of pulmonary destruction, an organ-saving operation - echinococcectomy was performed in 8 patients with firstly diagnosed fibrous-cavernous tuberculosis (1), infiltrative (3), focal (3), intrathoracic lymph node tuberculosis (1) and pulmonary TB. Good clinical effect was established in all 19 operated patients.

Conclusion: Partial resections are surgical indication at TB and echinococcosis both located in one lobe of lung, in different lung lobes - partial resection on account of TB and echinococcectomy are the surgical indication. At firstly found TB and echinococcosis, an organ-saving operation - echinococcectomy is necessary after effective chemotherapy and repair of pulmonary destruction. These operations are highly effective and heal patients from TB and pulmonary echinococcosis.

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Pulmonary hydatid cyst: Analysis of 1024 cases

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Objective: Pulmonary hydatid cyst is a parasitic disease and health care problem in developing countries. In this study we evaluated treatment outcomes of pulmonary hydatid disease in our Department.

Methods: Patients admitted with pulmonary hydatid cyst from 1981 to 2008 enrolled in this study and demographic data, site and number of cysts, diagnostic methods, type of operations, outcomes and rate of recurrence were statistically analyzed.

Results: In 1024 patients, mean age was (30.6±16.1) years and M/F=1.09. The most common symptom was cough (55.1%).

Only 1% was asymptomatic. 53.8% had right side involvement, 40% had left side involvement and 6.2% had bilateral disease. Inferior lobe was the most common involved lobe. The cyst was intact in 539 (52.6%) patients and other, were complicated or perforated. The most common surgical technique was removing the cyst membrane without resection of pericyst and closure of orifice of air ways (67.2%). The cyst was enucleated in 21.2% and parenchymal resection was performed in 10.3%. The mortality rate was (0.2%) and morbidity occurred in 8.4% of patients. The most common complications were residual spaces with prolonged airleak and wound infection. The recurrence rate was 2.5% mostly managed by surgery (82.6%).

Conclusion: The best treatment for pulmonary hydatid cyst disease is surgery with low mortality and morbidity. The most common and acceptable treatment is extraction of cyst membrane without manipulation of pericyst and closure of small air ways. Pulmonary resection should be reserved for complicated forms of disease.

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Surgery of relapsed hydatid disease of lungs

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The surgical treatment of hydatid disease of lungs is unique and the most radical, however and after operations the development of relapses is possible. On the data of the literature the relapse of hydatid disease after surgical treatment does not tend to decrease and changes from 3% up to 54%.

In the department of surgery of lungs and mediastinum Republican Specialized Center of Surgery named after acad. V.Vahidov from 1975 to 2009yy there were on treatment 2600 patients with hydatid disease of lungs. From 2600 operated patients concerning the various forms of hydatid disease of lungs relapse of disease from 1 to 7 years we observed in 160 (6,5%) patients. From them: men - 93 (58,1%), women - 67 (41,9%). The age of the patients varied from 10 to 70 years. From 160 patients 130 (81,25%) undergone operations, not operated 30 (18,7%) - the reason was disseminated process, wide distribution of hydatid cysts. 152 (95%) patients were performed organsaving operation, 8 (5%) patients underwent resections. In the postoperative period albendazole was administered in a doze 10-12 mg/kg/day, quantity of courses depended on the form of a defeat.

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Transthoracic approach in adult Morgagni hernias: 30 years experience

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Background: Morgagni hernia is a rare congenital disorder. Numerous approaches have been described and, particularly the significance of laparotomy has been emphasized as an operative technique.

Aims and objectives: To present our experience on adult patients with Morgagni hernia operated on via transthoracic approach in our department.

Methods: Between 1980 and 2010, 33 patients with Morgagni hernia were operated in our department. Their ages ranged from 17 to 77 years (mean 53.17). There were 17 females. Chest x-rays, thorax computed tomography, magnetic resonance imaging, barium enema, and pneumoperitoneum were used as diagnostic utilities. Thoracotomy was performed in all cases. In only one case, laparotomy was applied in addition to thoracotomy.

Results: Twenty-five hernias (76%) were right-sided and eight (24%) were left-sided. Hernia sac was present in all cases. Exploration revealed only omentum in 11 patients (33.3%), colon and omentum in 13 patients (39.3%), only colon in three patients (9%), stomach, colon and omentum in two patients (6%), only small bowel in two patients (6%), stomach and omentum in one patient (3%), and only stomach in one patient (3%). There were no complications and no mortalities. There was no recurrence or symptoms related to the operation. The mean follow-up was 11 years.

Conclusions: We advocate transthoracic approach for surgical exposure as it provides wide exposure and repair of Morgagni hernia.