ABSTRACTS

Semirigid thoracoscopy: an effective method for diagnosing pleural malignancies.

Rozman A, Camlek L, Kern I, Malovrh MM.
Radiol Oncol. 2014;48(1):67-71.

Background: Thoracoscopy with a semirigid instrument is a recent technique for diagnosing pleural diseases. The purpose of this study was to report diagnostic yield and complications of the method.
Patients and methods: Patients with pleural effusion of unknown origin and/or pleural irregularities suspicious for pleural malignancy were included after less invasive means of diagnosis had failed. All procedures were performed under local anesthesia with intravenous sedation/analgesia with a single point of entry with a semirigid thoracoscope (Olympus LTF-160). Data were collected prospectively between 2008 and 2012.
Results: One hundred fifteen thoracoscopies were performed on 111 patients. The me8dian age was 65 years (range 28-86 years), 14.4% were female and 85.6% male. Seventy-three (65.8%) patients had malignant pleural disease (malignant mesothelioma, metastatic cancer) and 38 (34.2%) had benign disease. The sensitivity, negative predictive value, and accuracy of the procedure for malignancy were 96.0%, 93.0%, and 97.4% respectively. Pleurodesis was carried out in 34 patients; in 32 (94.1%) it was assessed as successful after 1 month. There were 24 adverse events: three empyemas/pleural infections, three bronchopleural fistulae after chest tube placement and lung re-expansion, five patients had excessive pain after pleurodesis, six patients had sedation-associated hypotension, and seven patients had self-limited fever after plerodesis. One patient died 11 days after a procedure for advanced carcinoma.
Conclusions: Semirigid thoracoscopy is an accurate and safe method for evaluation of pleural diseases and useful for therapeutic talc pleurodesis.

Small-bore catheter drainage of pleural injury after percutaneous nephrolithotomy: feasibility and outcome from a single large institution series.

Benson JS, Hart ST, Kadlec AO, Turk T.
J Endourol. 2013;27(12):1440-3.

Background and purpose: A well-known complication of percutaneous nephrolithotomy (PCNL) is pleural injury. Pneumothorax and hydrothorax sustained during PCNL may necessitate the placement of a chest tube. Current literature describes placement of standard chest tubes as well as small-bore catheters for management of hydrothorax sustained during PCNL. This study aims to better delineate the clinical utility and outcomes associated with use of small-bore catheters when compared with standard chest tubes for managing pneumothorax and hydrothorax after PCNL.
Patients and methods: We queried an institutional database of 735 renal units that underwent PCNL for endourologic disease between 2001 and 2013. Postoperative upright chest radiographs were analyzed in patients who needed chest tube placement for pneumothorax or hydrothorax after PCNL. Those who met inclusion criteria were divided based on the size of chest tube placed: Small-bore (8-12F) or standard chest tube (32F). Analysis of clinical

outcomes was performed. Results: Of the 735 procedures, 15 (2% of total, 7 right, 8 left) needed chest tube placement for a pleural injury after PCNL. Those who needed chest tube placement had an average stone size of 2.1 cm. Five had large-bore standard chest tubes (32F) and 10 had small-bore catheters (<14F) for management of pleural injury. The average length of time the chest tube stayed in place was 3.9 days (minimum 2, maximum 6) for small bore and 4.4 days (minimum 2, maximum 7) for standard chest tubes. There was a statistical trend toward decreased hospital stay and decreased length of time the chest tube was in place when a small-bore chest tube was used.

Conclusion: The use of small-bore catheters for management of hydrothorax and pneumothorax 8have reasonable clinical outcomes when compared with standard large-bore chest tubes after PCNL.

Clinical characteristics, treatment and survival outcomes in malignant pleural mesothelioma: An institutional experience in Turkey.

Kucukoner M, Ali Kaplan M, Inal A, Urakci Z, Abakay O, Cetin Tanrikulu A, et al.
J BUON. 2014;19(1):164-70.

Purpose: To compare treatment modalities and investigate potential prognostic factors for survival in patients with malignant pleural mesothelioma (MPM).

Methods: The present study has investigated the data of 150 patients with MPM who were examined and treated in our center from 2005 to 2012.

Results: The study included 87 male (58% and 63 female (42) patients. Surgical resection (pleurectomy/decortications (P/D), and extrapleural pneumonectomy (EPP)) was performed in 32 (36.7%) patients; 87 patients (58%) received chemotherapy alone and 16 (10.7%) had surgery, chemotherapy and radiotherapy (trimodal treatment). The median progression free and overall survival (PFS and OS) for all patients were 10.6 and 14.8 months, respectively. No statistically significant difference was observed between the patients who received pemetrexed/cisplatin (N=54) and gemcitabine/cisplatin (N=28) in terms of PFS and OS (p=0.145, p=0.244, respectively). Also, no statistically significant difference was registered between operated and non-operated patients (PFS and OS, p=0.416, p=0.095, respectively). There was no difference in both PFS and OS rates between patients who had P/D or EPP (p=0.87, p=0.652, respectively). Log rank analysis: Eastern Cooperative Oncology Group performance status (ECOG PS) (p=0.018), histology (p<0.001), stage (p<0.001) and leukocytosis (p=0.005) were found to be significant prognostic factors of OS. At multivariate analysis, ECOG PS (p=0.016) and stage (p<0.001) were independent prognostic factors for OS.

Conclusion: Median OS was approximately 1 year. ECOG PS, histological type, stage and presence of leukocytosis were prognostic factors that affected both PFS and OS. EPP or P/D surgical options did not provide difference in terms of survival. Survival rates in patients who received a combination of platinum analogues with pemetrexed or gemcitabine as front-line chemotherapy were similar.

A cross-sectional prospective study of pleural effusion among cases of chronic kidney disease.

Ray S, Mukherjee S, Ganguly J, Abhishek K, Mitras S, Kundu S.
Indian J Chest Dis Allied Sci. 2013;55(4):209-13.

BACKGROUND: Pleural effusions of diverse aetiologies are encountered in patients with chronic kidney disease (CKD). The objectives of the present study were to examine the frequency of occurrence, causes, clinical features and management strategies of pleural effusion in patients with CKD including renal transplant recipients.
METHODS: A prospective cross-sectional observational analysis of pleural effusion in adult patients with CKD (stages 3 to 5) attending the Departments of Nephrology and Respiratory Medicine of a tertiary care institution in Eastern India was performed over a period of one year (February 2010 to January 2011).
RESULTS: Pleural effusion was found in 29 out of 430 patients with CKD (6.7%) and in two out of 34 post-renal transplant recipients (5.9%) evaluated during the study period. The mean age was 37.35 +/- 1.8 (mean +/- SEM [standard error of mean]) with a male to female ratio of 2:1. Exudates and transudates were found in equal frequencies. Heart failure was the single most common cause (41.9%, 13 of 31). Tuberculosis (TB) (n = 8, 25.8%) and uraemic effusions (n = 6, 19.4%) were responsible for the majority of exudates. Unilateral effusion with a normal heart size had a positive predictive value of 83.3% for non-heart failure aetiology.
CONCLUSIONS: Symptomatic pleural effusion was present in a small proportion of 6.7%; (n = 29) patients with CKD including post-renal transplant recipients. Heart failure, TB and uraemic effusions accounted for most of the cases. Differentiating TB from uraemic effusion requires a combined clinico-pathological approach and this differentiation is absolutely necessary for proper management.

A prospective randomized single-blind control study of volume threshold for chest tube removal following lobectomy.

Zhang Y, Li H, Hu B, Li T, Miao JB, You B, Fu YL, Zhang WQ.
World J Surg. 2014;38(1):60-7.

BACKGROUND: The aim of the current study was to assess the feasibility and safety of a new volume threshold for chest tube removal following lobectomy.
METHODS: The prospective randomized single-blind control study included 90 consecutive patients who underwent lobectomy or bilobectomy for pathological conditions between March 2012 and September 2012. Eligible patients were randomized into two groups: early removal group (chest tube removal at the drainage volume of 300 ml/24 h or less) and traditional management group (chest tube removal when the drainage volume is less than 100 ml/24 h). Criteria for the early removal group were established and met prior to chest tube removal. The volume and characteristics of drainage, time of drainage tube extraction, and postoperative hospital stay were recorded. All patients received standard care while in the hospital and a follow-up visit was performed 7 days after discharge from hospital.
RESULTS: In accordance with the exit criteria, 20 patients were excluded from the study. The remaining 70 patients included in the final analysis were divided into two groups: early removal

group (n = 41) and traditional management group (n = 29). There was no difference between the two groups in terms of age, sex, comorbidities, and pathological evaluation of resection specimens. In eligible patients (n = 70), the mean volume of drainage 24 h after surgery was 300 ml, while the mean volume of drainage 48 h after surgery was 250 ml. The average daily drainage 48 h after surgery was significantly different than the average daily drainage 24 h after surgery (Z = -2.059, P = 0.039). The mean duration of chest tube placement was 44 h in the early removal group and 67 h in the traditional management group (P = 0.004). Patients who underwent early removal management had a shorter postoperative hospital stay compared to the traditional management group (5 vs. 6 days, P < 0.01). No statistically significant differences were observed between the rates of pleural effusion development, thoracentesis, and postoperative complications 1 week after hospital discharge.

CONCLUSION: Early removal of the chest tube after lobectomy is feasible and safe and may shorten patient hospital stay and reduce morbidity without the added risk of postoperative complications.

Hemorrhagic complications of thoracentesis and small-bore chest tube placement in patients taking clopidogrel.

Mahmood K, Shofer SL, Moser BK, Argento AC, Smathers EC, Wahidi MM.
Ann Am Thorac Soc. 2014;11(1):73-9.

RATIONALE: Clopidogrel is a commonly used antiplatelet medication. The risk of local hemorrhage associated with use of this drug during routine thoracentesis or small-bore chest tube placement is not well established.

OBJECTIVES: We conducted a prospective cohort study to assess the risk of hemothorax in patients taking clopidogrel while undergoing either pleural procedure.

METHODS: Twenty-five consecutive adult patients who were taking clopidogrel at the time they were offered thoracentesis or small-bore (14 Fr) chest tube placement consented to continue taking the drug through their procedure. A control group consisted of 50 patients undergoing these pleural procedures who were not taking clopidogrel at the time they consented to undergo either procedure. All of the pleural procedures were performed under ultrasound guidance by an interventional pulmonologist or a fellow under direct faculty supervision. Hospitalized patients were screened for hemothorax by observing for a post-procedure drop in blood hemoglobin content of 2 g/dl or reaccumulation of their pleural effusion within 24 hours of the procedure. Outpatients were called within 2 weeks after their procedure to determine whether they had any symptoms suggestive of hemothorax.

MEASUREMENTS AND MAIN RESULTS: There was one case of hemothorax after thoracentesis in the clopidogrel group versus none in the control group. The one patient with hemothorax required transfusion with 2 units of packed red blood cells and small-bore chest tube placement, and clopidogrel was withheld. There were no other clinically apparent complications of either procedure.

CONCLUSIONS: Considered in combination with other small previously published studies, this single-center, nonrandomized, controlled prospective cohort study suggests that the rate of clinically consequential hemorrhage after ultrasound-guided thoracentesis or chest tube placement in patients taking clopidogrel is sufficiently low to warrant a large, randomized clinical

trial designed to determine the safety of performing these procedures without interrupting clopidogrel therapy.

Intrapleural hyperthermic perfusion using distilled water at 48 °C for malignant pleural effusion.

Ba M, Long H, Wang Y, Tang Y, Wu Y, Zhang X, Cui S.
J Cancer Res Clin Oncol. 2013;139(12):2005-12.

BACKGROUND: To evaluate the feasibility, safety and preliminary efficacy of B-ultrasound-guided continuous circulatory intrapleural hyperthermic perfusion (IHP) with distilled water (DW) at 48 °C, for the treatment of malignant pleural effusion (MPE).
METHODS: Prospective, randomized interventional study in China (from December 2008 to December 2011) in adults with MPE originating from disseminated pleural tumor. Exclusion criteria: thoracotomy or surgical resection, limited encapsulated pleural effusion or extensive pleural adhesions. Patients were randomly divided into DW (12 patients; B-ultrasound-guided IHP with 48 °C DW) and PSS-C (11 patients; B-ultrasound-guided IHP with 45 °C physiological saline solution and cisplatin) groups. Patients were followed up for assessment of objective MPE remission rate, Karnofsky performance scale (KPS) scores and survival duration.
RESULTS: Pleural effusion was controlled in 100 % of patients, and mean KPS score was increased by 40 % after therapy. Patients' median survival times in the DW and PSS-C groups were 13.0 and 12.9 months, respectively. No serious clinical complications were observed. There were no significant differences between groups in the total objective MPE remission rate, mean KPS score change or median survival time, demonstrating the achievement of significant clinical efficacy with our modified IHP.
CONCLUSION: Intrapleural hyperthermic perfusion with 48 °C DW is feasible, easy to perform and relatively safe. This method may offer excellent local control for patients with MPE secondary to disseminated pleural lesions.