

## 486. Surgical options in pulmonary infections

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### Surgical treatment of pulmonary aspergilloma

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Pulmonary aspergilloma or mycetoma is a ball-shaped fungal infection, which is mostly encountered in pre-existing pulmonary cavities. Local inflammation, high vascularity and pre-existing lung damage can complicate surgical resection. We aimed to describe our patient population, the employed surgical techniques and the postoperative follow-up.

We performed a retrospective analysis of all patients who underwent surgical resection for an aspergilloma between January 2003 and September 2010. Using the patient charts, we examined the clinical data as well as the type of surgical technique that was used. SPSS 17.0 (SPSS INC, Chicago, IL) was used for data analysis.

Twenty-three patients underwent surgical resection for pulmonary aspergilloma. Seventeen (74%) were men, the mean age was 53 years and 43% of the patients presented with hemoptysis. Underlying diseases included hematological malignancies (n=8), (a history of) tuberculosis (n=3) and M. Bechterew (n=2). The most frequently employed surgical techniques consisted of wedge resection (n=8), lobectomy (n=7), pneumonectomy (n=2) and segmentectomy (n=2). The duration of the hospitalization after the first surgical resection varied from 5 to 141 days (median 17, IQR, 9-33,25). The median time required for the first surgical resection was 3:34 hours (IQR, 2:34-5:07). Six patients (26%) underwent a rethoracotomy. Four patients died within 6 months after surgery.

Comorbidities were common, the duration of the surgical resections and hospital admissions was long and rethoracotomy was required in 26% of the cases. This illustrates the technical challenges for the surgeon and necessitates treatment in expert centers.

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### The effect of preoperative albendazole treatment on the cuticular membrane of the pulmonary hydatid cysts

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**Background:** In this study, the effect of preoperative albendazole treatment on the tensile forces of the cuticular membrane of the pulmonary hydatid cysts is investigated.

**Methods:** A prospective study on the forty-four patients operated for pulmonary hydatid cysts between January 2009 and November 2010 is planned. The study is approved by the ethics committee of our centre. Seventeen patients having 20 cysts in the group A operated after three cycles of peroral 10mg/kg/day albendazole treatment where the 27 patients having 29 cysts in group B are operated without any preoperative administration of albendazole. Tensile stress tests were carried out on the excised cuticular membrane for the both groups on the fresh tissue.

**Results:** The results of this study have shown that the tensile strength of the cuticular membrane of the cysts excised from group A is lesser than group B and the difference between the two groups is statistically significant.

**Conclusion:** Albendazole treatment decreases the tensile strength of the cuticular membrane of the pulmonary hydatid cysts which may lead to perforation. The patients should be operated as soon as possible without any preoperative medical treatment in order to prevent the complication of the cyst before the definitive surgical treatment.

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### Comparison between video-thoroscopic and open surgical management of thoracic empyema

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**Aim:** To evaluate the outcomes of video-thoroscopic and open surgical management of patients with thoracic empyema.

**Methods:** We studied 228 patients retrospectively who underwent surgery for thoracic empyema in our hospital between January, 1999 and January, 2011. Patients' medical records, surgical procedures, and outcomes were reviewed. The study identified 181 affected men and 47 affected women with a mean age of 54 years (range 16-78 years). The empyema was parapneumonic in 177 patients (77.63%).

**Results:** Eighty two patients who had stage II empyema underwent video-assisted thoracic surgery (VATS). The procedure was converted to thoracotomy in 24 patients (29.2%); the morbidity and mortality rates of VATS were 13% and 0, respectively. One hundred forty six patients had stage III empyema and, along with those 24 who were converted, underwent thoracotomy for decortication. The

associated morbidity rate was 12%, and the mortality rate was 6.6%. Thoracotomy was considered successful in 167 of 170 patients (98.2%); three patients needed a reoperative thoracotomy for an organ space/surgical site infection with pus in the pleural cavity.

**Conclusions:** Many treatment modalities are available for thoracic empyema, depending on the results of appropriate clinical and laboratory investigations. In fibrinopurulent empyema, VATS debridement is safe and effective, with minimal morbidity and no deaths. Lung decortication via thoracotomy is the only option for organized empyema and is associated with a substantial mortality rate.

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### Video-assisted modified Weder method for accelerated treatment of postpneumonectomy empyema without bronchopleural fistula

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**Objective:** To introduce a video-assisted modification of Weder method for accelerated treatment of postpneumonectomy empyema (PPE) without bronchopleural fistula.

**Methods:** Three men (52, 58, 64 year old) with late PPE were treated by our modification. It follows the principals of original method: pleural cavity radical debridement and packing with wet dressing of povidone-iodine, repeated every second day until the pleural cavity is macroscopically clean and finally obliterated with antibiotic solution. We do not open the former thoracotomy. The debridement is carried out through a muscle-sparing minithoracotomy or in initially drained patients through the totally excised tube port. These 4-5 cm incisions are used for inserting the telescope and the working instruments into the cavity. General anesthesia is used only for the first session, because more extensive surgery might be required. Thoracic epidural via catheter with preserved self-ventilation is the anesthesia for the remaining sessions and for postoperative pain relief. We never put a tube drain into pleural cavity and the last is closed with soft tissues interrupting suturing. Parenteral antibiotics started preoperatively is continued until discharge.

**Results:** PPE was successfully treated in all patients after three sessions. The mean hospital stay was 10 days. The long-term functional and cosmetic results were excellent.

**Conclusions:** Although our modification is based on a limited clinical experience we believe that it might be a valuable approach for PPE patients without a bronchopleural fistula. It is minimally invasive, well tolerated, anesthesia-sparing and no pleural tube drainage used.

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### Mechanical versus enzymatic debridement in the management of thoracic empyemas

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**Introduction:** Pleural empyema affects a large number of patients each year and has severe and disabling sequelae when it is not recognized or is treated incorrectly.

**Aim:** To assess and compare the mechanical versus enzymatic debridement in the management of localized pleural effusions unresolved with insertion of intercostal drainage.

**Materials and methods:** Prospective randomized study in 2 groups of patients with thoracic empyema (2006-2011). Group A consisted of 35 patients that underwent mechanical debridement by mechanical thoracoscopy (MT) under local and central anesthesia (midazolam, fentanyl) and group B consisted of 34 patients treated with enzymatic debridement (streptokinase-streptodornase). Treatment options were assessed in terms of efficacy and patient outcome.

**Results:** Our groups consisted of 30 females and 39 males with a mean age of 56.5 years (range 12-90). Presenting symptoms till treatment were 10-26 days (transitional phase empyema). In both groups the most common microorganism was *Streptococcus Milleri* (30%), following *Staphylococcus Aureus* (20%) and Gram(-) (10%). Success rate in Group A was 85% and in Group B 20%. In Group B, 40% of the unsuccessfully debrided patients underwent MT mechanical debridement and the rest thoracotomy and decortication. Mean hospital stay in Group A was 4.5 days and in Group B 8.5 days. At median follow-up of 8 weeks all Group A patients were symptom-free with minimal pleural thickening on chest X-ray.

**Conclusions:** Mechanical debridement by MT is superior to enzymatic debridement in the management of thoracic empyemas. It is a minimal invasive and effective technique allowing direct visualization of the pleural space and offering a good long-term clinical outcome.

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**Present forms of the tuberculosis for which surgery is required**

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**Introduction:** With introduction of tuberculostatic drugs, the surgical indications were diminished in the last decades. Although, in a country like Romania which touch record level of the tuberculosis's incidence in time, the surgical approach changed. For example, toracoplasty was abandoned or utilized for selected case. Also, there are new methods of diagnosis who require the surgical approach.

**Objectives:** The work presents the value of surgery in the diagnosis and in the traitement.

**Material and methods:** We retrospectively reviewed 67 patients (47 males and 20 females, mean age: 50.2 years) treated between 2008 and 2010. We utilised in diagnosis the mediastinoscopy for mediastinal adenopathies biopsy in 2 cases, videoassisted thoracoscopy for pleural biopsy in 28 cases. We applied pleuropulmonary decortication for 12 patients with lung trapped after adequate medical therapy. A point of view of lung resection we had 8 atypical lung resection for solitary nodule of unknown cause, 11 lobectomy and 6 pneumonectomy for lung destruction, caverns or MDR-TB.

**Results:** There was one operation-related death (1.5%) and 5 major postoperative complications (7.5%). 22 of 25 of pulmonary resection remained free of TB following surgery. Preoperative comorbidity, Aspergillus coinfection, operation time and emergency were the factors shown to be predictive of an unfavorable outcome.

**Conclusions:** Surgery remains a crucial adjunct to medical therapy for the treatment of TB and medical failure lesions. We identified temporal changes in the methods of diagnosis and traitement for tuberculosis.

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WITHDRAWN