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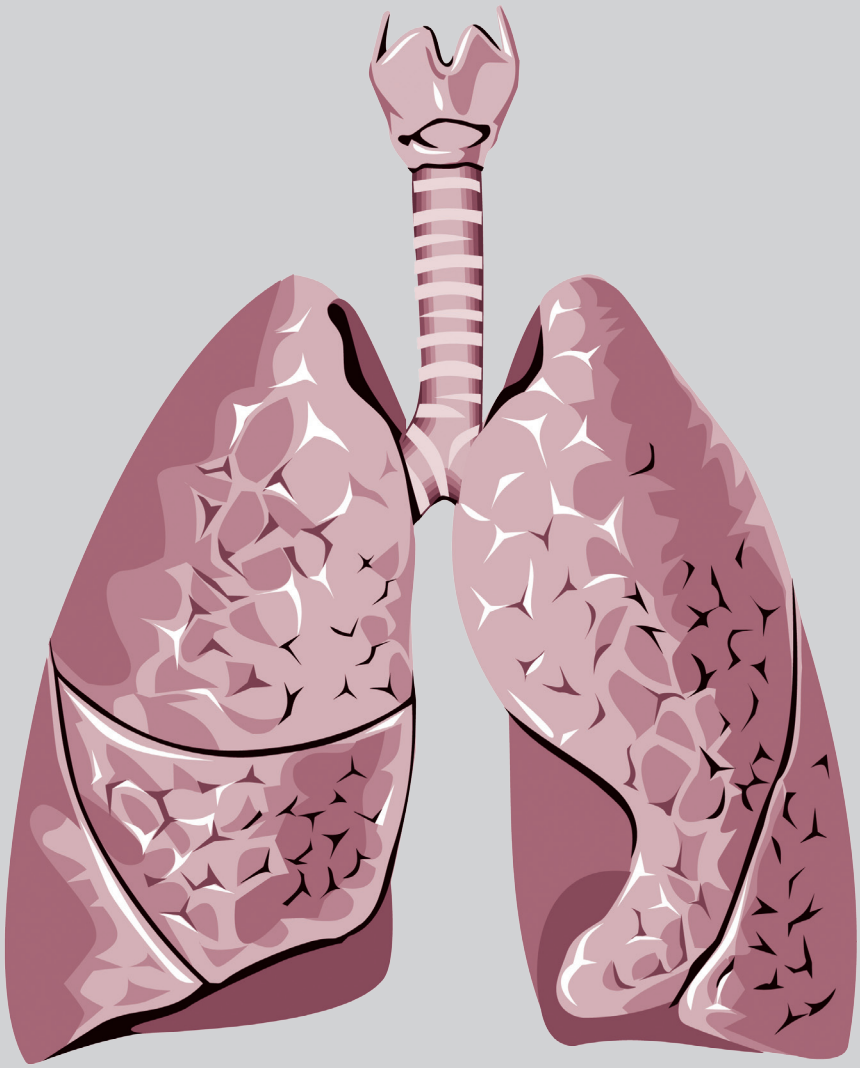

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Predictors and Effects of Treatment Consistency on Recurrence of Tuberculosis: A Population-based Cohort Study in Taiwan

Ying-Ying Chen[1], Jia-Yih Feng[2,3], Fan-Yi Chuang[2], Sheng-Wei Pan[2,3,4], Vincent Yi-Fong Su[3,5,6], Yung-Feng Yen[3,7], Pei-Hung Chuang[8,9], Wei-Juin Su[2,3]

Introduction: Recurrence of tuberculosis (TB) is not uncommon in active TB patients after completion of anti-TB treatment. Several disease-related and host-related factors have been reported to increase the risk of recurrence of TB. The impact of treatment consistency on TB recurrence has rarely been evaluated.

Methods: Patients with active TB were identified retrospectively from the National Health Insurance Research Database from 2006 to 2014 in Taiwan. Treatment consistency was determined on the basis of the number of days with anti-TB drugs during the intensive and continuous phases. The 2-year TB recurrence rates were analyzed and compared between patients with treatment consistency ≥80% and those with <80%. The factors associated with 2-year TB recurrence and treatment consistency were also analyzed.

Results: Among the 54,803 active TB patients included for analysis, 17,029 (32.4%) had treatment consistency <80%. The 2-year TB recurrence rate was 0.95% in the ≥80% consistency group and 1.36% in the <80% consistency group ($P < 0.001$). In multivariate analysis, treatment consistency <80% remained an independent factor for 2-year TB recurrence, with a hazard ratio of 1.49 (95% CI = 1.19–1.87). We found that individuals who were older, had extrapulmonary involvement, were male, rural area residents, and had comorbidities were more likely to have treatment consistency <80%.

Conclusion: Treatment consistency <80% was not rare in TB patients and was associated with an increased risk of TB recurrence. ***(Thorac Med 2021; 36: 147-160)***

Key words: adherence, directly observed therapy, recurrence, tuberculosis, treatment consistency

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Uniportal Thoracoscopic Lung Tumor Resection With or Without Needlescopic Assistance: A Prospective Randomized Study

Huan-Jang Ko[1], Shun-Mao Yang[1,2], Ming-Chi Yang[1]

Introduction: The use of uniportal video-assisted thoracoscopic surgery (VATS) for lung tumors has gained widespread popularity. Its feasibility and safety have been verified in numerous case series; however, evidence of its superiority over multiportal VATS remains controversial. This prospective, randomized study investigated whether adding needlescopic ports to the existing uniportal VATS for pulmonary resection affects postoperative outcomes.

Methods: A total of 110 patients were randomly and equally divided into 2 groups: a standard uniportal VATS group (uniportal group) and a needlescopic-assisted uniportal VATS group (needle-assisted group). The primary outcome measures were postoperative pain, opioid analgesic dosage, and incidence of chronic pain. The secondary outcome measures were surgical duration, length of postoperative hospital stay, postoperative complications, and operative or 30-day mortality.

Results: The clinico-demographic parameters (age, sex, and comorbidities), procedure types, and pathological variables of the 2 groups were comparable. The operative results, including operation time, duration of drainage (4.5 ± 1.7 vs. 4.4 ± 1.8 days; $p = 0.709$), and hospital stay (4.9 ± 2.1 vs. 4.5 ± 2.1 days; $p = 0.281$), were comparable for both groups, and no significant differences were noted in acute pain scores. The chronic neuralgia results at postoperative 1 and 3 months were comparable in both groups.

Conclusion: The addition of needlescopic ports to conventional uniportal VATS did not negatively affect the short-term outcomes. ***(Thorac Med 2021; 36: 161-172)***

Key words: lung tumor, needlescopic, neuralgia, video-assisted thoracoscopic surgery

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Pleuroscopy for diagnosis of tuberculous pleurisy: Experience-sharing from Changhua Christian Hospital

Shih-Jung Chang[1], Sheng-Hao Lin[1]

Introduction: This retrospective study evaluated the usefulness of medical thoracoscopy, also called pleuroscopy, in confirming the diagnosis of tuberculous pleurisy. We also assessed pleuroscopic findings of tuberculous pleurisy and compared them with those from surgical biopsy. Pleural effusion removed through thoracentesis, and sputum sample stain and culture were also evaluated.

Methods: Fifty-nine patients with exudative pleural effusion underwent pleuroscopy; 14 were diagnosed as having tuberculous pleurisy. We assessed clinical manifestations, routine and biochemical tests of pleural fluid, and cultures of pleural fluid, sputum, and pleural biopsy for M. tuberculosis and pathological findings.

Results: In all, 28%, 35%, and 64% of sputum, pleural fluid, and pleural biopsy cultures, respectively, were positive for M. tuberculosis. Furthermore, 92% of patients with tuberculous pleurisy had high adenosine deaminase (ADA) levels in their pleural fluid (>40 U/L). In 1 patient with low ADA levels, culture of pleuroscopy-obtained tissue revealed M. tuberculosis. Pathology reports revealed granulomatous inflammation in 86% of the patients with tuberculosis (TB).

Conclusion: Pleuroscopy is useful for identifying tuberculous pleurisy. Anesthesia is not absolutely required for pleuroscopy, resulting in a shorter intervention time and better procedure tolerance than with surgical biopsy. The diagnosis of TB based on ADA levels alone precludes culture, leading to a lack of antibiotic sensitivity testing; consequently, any drug resistance is identified only after anti-TB treatment failure. ***(Thorac Med 2021; 36: 173-177)***

Key words: Adenosine deaminase, thoracoscopy, pleuroscopy, tuberculous pleurisy

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Identification of Risk Factors Predicting Respiratory Failure in Adult Patients With Positive Rapid Influenza Diagnostic Tests in Taiwan

Wei-Li Lien[1], Shu-Ling Chen[2], Chun-Chin Tsai[3], Jun-Huang Lai[4], Mei-Fang Chen[5]

Background: Severe influenza is associated with a greater likelihood of respiratory failure and mortality. Early identification of patients who are potentially critically ill is important. The aim of this study was to determine the predictors of respiratory failure in severe influenza patients.

Methods: In this retrospective case-control study, we enrolled 3635 adult patients with influenza infection from a regional teaching hospital in Kaohsiung between 1 January 2017 and 31 December 2019. All patients with positive rapid influenza diagnostic tests were separated into 2 groups: a respiratory failure group and a non-respiratory failure group. We evaluated predictors, including age, gender, body mass index ≧27 kg/m2, diabetes, chronic heart disease, chronic lung disease, acute kidney injury, C-reactive protein >2 mg/dL, thrombocytopenia, leukopenia, albumin <3.5 g/dL, and a quick Sequential Organ Failure Assessment (qSOFA) score ≧2, and examined whether these factors correlated to respiratory failure.

Results: The incidence of influenza-related respiratory failure was 0.8 percent in this study. Multiple logistic regression analysis showed that significant predictors of influenza complicated by respiratory failure were age (OR=1.093, *P*=0.001), diabetes (OR=1.884, *P*=0.001), chronic lung disease (OR=1.854, *P*=0.004), chronic heart disease (OR=1.256, *P*=0.005), a qSOFA score ≧2 (OR=2.541, *P*=0.026), and acute kidney injury (OR=1.872, *P*=0.001).

Conclusion: This study revealed the predictors of severe influenza complicated by respiratory failure. The results of this study could provide a reference for physicians to identify risk factors early, so as to prevent the development of influenza complicated by respiratory failure. ***(Thorac Med 2021; 36: 178-186)***

Key words: predictor, respiratory failure, influenza, Taiwan

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Pulmonary Alveolar Microlithiasis: A Case Report and Literature Review

Shr-Hau Dai[1], Yao-Min Ting[1], Herng-Sheng Lee[2], Lin Lee[1]

Pulmonary alveolar microlithiasis (PAM) is an uncommon genetic lung disease characterized by the deposition of calcium phosphate within the alveoli. Mutations in the SLC34A2 gene, which encodes a sodium/phosphate co-transporter, are responsible for this disease. Dysfunction of this transporter leads to local aggregation of phosphate in the alveolar airspaces and formation of microliths. The long-term prognosis is poor and no known effective treatment is available to date. We describe the case of a 47-year-old woman who was referred to our hospital for eye surgery, but chest radiography incidentally revealed extensive interstitial lung disease. Shortness of breath and lip cyanosis gradually developed in the following half-year. A computed tomography-guided biopsy was performed that confirmed the PAM diagnosis. The patient died 6 months after the initial chest image finding. It was concluded that the disease was discovered late in this patient and progressed rapidly. ***(Thorac Med 2021; 36: 187-192)***

Key words: pulmonary alveolar microlithiasis; SLC34A2 gene; sodium-phosphate co-transporter

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Diffuse High-Attenuation Pulmonary Reticular Abnormalities: Idiopathic Diffuse Dendriform Pulmonary Ossification

Yen Chin[1], Herng-Sheng Lee[2], Ruay-Sheng Lai[1,3]

Dendriform pulmonary ossification is a rare pulmonary entity, and the diagnosis has usually been established on postmortem examination. Histologically, it is characterized by widespread ectopic fine branching osseous fragment formation in the lung parenchyma. On chest radiographs, it mimics other interstitial lung diseases, and may present as diffuse high-attenuation nodular and/or branching abnormalities on high-resolution computed tomography. At chronic stages, the disease presents without remarkable clinical manifestations, and the majority of cases are found in the middle-aged to older male population. Here we present the case of a young female adult with idiopathic dendriform pulmonary ossification confirmed via video-assisted thoracoscopy surgery biopsy. ***(Thorac Med 2021; 36: 193-197)***

Key words: pulmonary alveolar microlithiasis; SLC34A2 gene; sodium-phosphate co-transporter

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Diaphragmatic Repair with Talc Pleurodesis for Refractory Hepatic Hydrothorax Before Liver Transplantation

Hsiu-Ping Chou[1], Pei-Yi Chu[1], Hung Chang[1], Tsai-Wang Huang[1]

Hepatic hydrothorax is pleural effusion that has accumulated in cirrhosis patients, without concomitant cardiopulmonary disease. The estimated prevalence of hepatic hydrothorax is 10-15%, and the incidence is 5-11%. It is a rare complication of cirrhosis. Some patients with hepatic hydrothorax can be asymptomatic. However, hepatic hydrothorax can lead to respiratory conditions, such as cough, shortness of breath, hypoxemia or respiratory failure, in some patients. We present the case of a hepatic hydrothorax patient with respiratory syndrome who was not successfully treated with medication. There are many therapeutic strategies for the treatment of hepatic hydrothorax. However, there is a high rate of recurrence of post-treatment pleural effusion. In addition, complications frequently occur with each treatment. In our case, we successfully diagnosed the reason for the hydrothorax and treated the patient with talc-pleurodesis and diaphragm repair under video-assisted thoracoscopy. No recurrence was noted in the following outpatient department visits. ***(Thorac Med 2021; 36: 203-206)***

Key words: hepatic hydrothorax; talc; diaphragm repair

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