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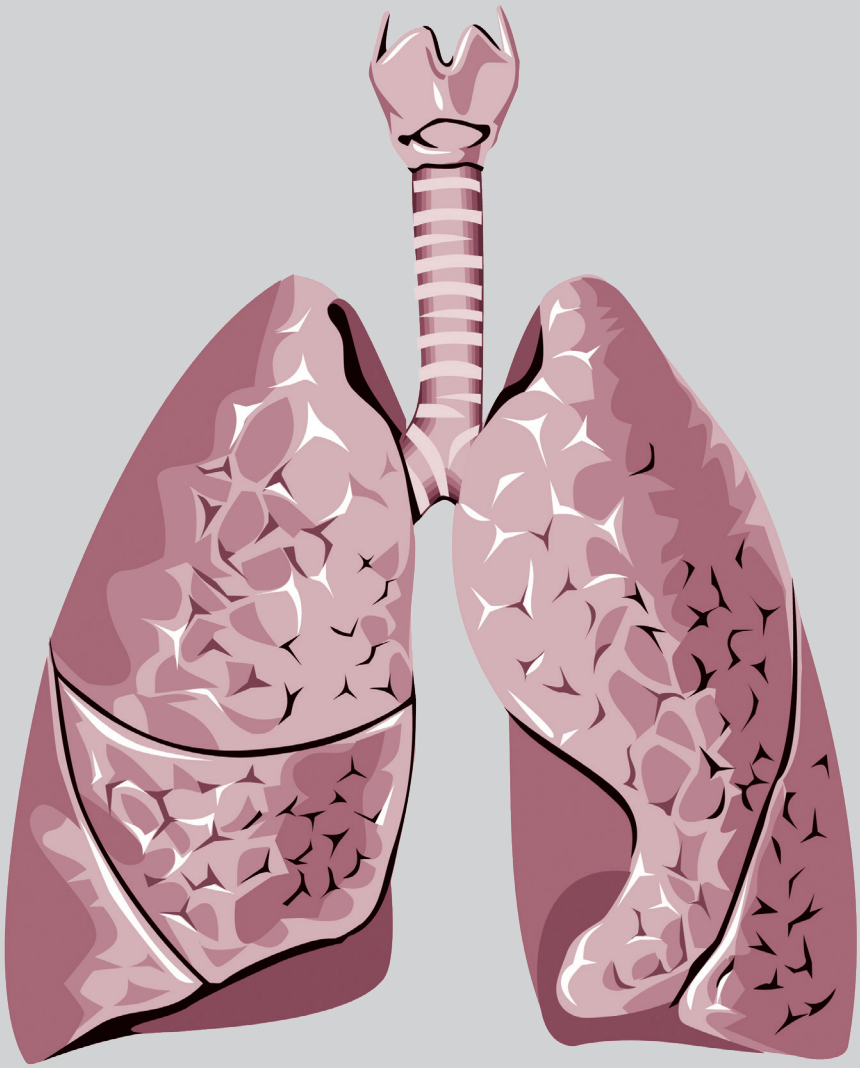

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Orginial Articles

Case Reports

Role of Bronchoscopic Lung Cryobiopsy in Diagnosing Pulmonary Alveolar Proteinosis

Yu-Chang Fu[1], Chih-Yen Tu[1], Wen-Chien Cheng[1], Biing-Ru Wu[1], Yu-Hua Su[1], Chih-Yu Chen[1], Wei-Chun Chen[1], Wei-chih Liao[1], Chia-Hung Chen[1]

Background: The diagnosis of pulmonary alveolar proteinosis (PAP) is typically secured through bronchoalveolar lavage, transbronchial lung biopsy (TBLB), or rarely, surgical lung biopsy (SLB). Bronchoscopic lung cryobiopsy (BLC) has emerged as a reliable method for diagnosing diffuse parenchymal lung diseases (DPLD), although its utility in diagnosing PAP is not extensively documented. To our knowledge, existing literature consists mainly of case reports or inclusion in DPLD case series. Therefore, this study aimed to compare TBLB and BLC in the diagnosis of PAP.

Methods: We enrolled patients with PAP who underwent radial probe endobronchial ultrasound without fluoroscopy to locate target lesions, followed by sampling with conventional TBLB and BLC from January 2015 to March 2024.

Results: Seven patients were enrolled in our study. BLC was performed at the right middle lobe in 3 patients and the lower lobe in the remaining patients. BLC yielded larger tissue fragments than conventional forceps biopsy. Moderate bleeding occurred in 5 patients, and was managed with epinephrine and tranexamic acid. Five patients developed pneumothorax requiring chest tube insertion. Most patients underwent whole lung lavage, showing clinical and radiological improvement.

Conclusion: With a safety profile comparable to SLB and a more favorable diagnostic yield than TBLB, BLC could be considered more often in the diagnosis of PAP. ***(Thorac Med 2025; 40: 99-106)***

Key words: Pulmonary alveolar proteinosis, bronchoscopic lung cryobiopsy, diffuse parenchymal lung disease

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Clinical Characteristics and Mortality Rates of COVID-19 Patients with Malignancies

Hsin-I Cheng[1], Shu-Min Lin[1,2,3,4], Po-Jui Chang[1,4], Horng-Chyuan Lin[1,4], Ko-Wei Chang[1,4]

Objectives: Early reports have indicated that patients with cancer may be associated with a higher possibility of being infected by coronavirus disease 2019 (COVID-19). However, the mortality rate of patients with cancer infected by COVID-19 in Taiwan has not been well described.

Methods: This retrospective observational study was conducted at the Linkou Branch of Chang Gung Memorial Hospital, Taiwan, from May 2022 to September 2022. All patients who had confirmed SARS-CoV-2 infection and were admitted to the ward were enrolled. Demographic data, laboratory results, and treatment information were collected and analyzed. In addition, clinical outcomes for patients with and without cancer were analyzed.

Results: In total, 620 patients with COVID-19 were included in this study, and 132 of them had cancer. After matching, 132 patients were categorized into the cancer group, and 128 without cancer were placed in the no-cancer group. The no-cancer group had a higher prevalence of underlying heart failure, elevated leukocyte counts, and increased levels of blood urea nitrogen (BUN) and creatinine. The cancer group had higher C-reactive protein (CRP) levels and significantly greater in-hospital mortality rates (21.2% vs. 3.1%, $P < 0.001$). Independent risk factors for in-hospital mortality included having a malignancy as an underlying condition and advanced age.

Conclusion: Our research found that COVID-19 patients with cancer had notably higher death rates, and that cancer was an independent risk factor for in-hospital mortality. Those who were adequately vaccinated demonstrated a much lower likelihood of disease progression. We suggest encouraging vaccination and providing rigorous monitoring throughout the treatment period. ***(Thorac Med 2025; 40: 107-116)***

Key words: COVID-19, cancer, mortality

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An Asthma Patient with Eosinophilic Granulomatosis with Polyangiitis Presenting as Multi-Organ Involvement-Case Report and Literature Review

Liang-Shiung Guo[1], Shih-Ming Tsao[2,3], Frank Cheau-Feng Lin[1,3]

Eosinophilic granulomatosis with polyangiitis (EGPA), known as Churg-Strauss syndrome, is a rare autoimmune, small-vessel, eosinophilic vasculitis that is often challenging to recognize early. We reported a middle-aged female with chronic asthma, who underwent lobectomy due to recurrent collapse of the right middle lobe. The subsequent pathology report confirmed a diagnosis of EGPA. The review of her medical history for the past decade showed involvement of multiple organs with nonspecific symptoms related to EGPA. She is currently in stable condition being treated with a combination agent consisting of inhaled corticosteroids and a long-acting beta agonist, as well as an interleukin-5 antagonist. This report provides data to assist clinicians in recognizing the progression of seronegative EGPA, thereby facilitating earlier diagnosis and further treatment. ***(Thorac Med 2025; 40: 117-124)***

Key words: eosinophilic granulomatosis with polyangiitis (Churg-Strauss Syndrome), anti-neutrophil cytoplasmic antibody (ANCA), antinuclear antibody, right middle lobe syndrome, asthma, mepolizumab

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Adenoid Cystic Carcinoma Arising from A Rare Site: A Case Report

Chin-Hua Yo[1], Jing-Quan Zheng[2]

Adenoid cystic carcinoma (ACC) is a rare type of cancer that most commonly arises in the salivary glands but can also occur in other locations, including the nasopharynx, larynx, trachea, lung, liver, and cervix, although less frequently. Patients with ACC are initially asymptomatic, which impedes early detection. No study tool is of clinical value. The diagnosis is confirmed by tissue biopsy. In most cases, ACC patients are treated with surgery first, and this may be followed with postoperative radiotherapy. Patients with locoregional or distant metastases should consider systemic therapy, such as chemotherapy with a single agent or in combination. In this case report, we presented a patient diagnosed with ACC arising from a rare site, found after comprehensive study. Systemic therapy was considered for distant metastases upon diagnosis of this disease. ***(Thorac Med 2025; 40: 125-129)***

Key words: adenoid cystic carcinoma, larynx

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Anti-synthetase Syndrome with Isolated Pulmonary Manifestation: A Case Report of Rapidly Progressive Respiratory Failure

Yen-Chen Lee[1], Chieh-Jen Wang[2], Wen-Hsiu Wang[3], Chang-Yi Lin[4]

A 77-year-old male diagnosed with anti-synthetase syndrome presented with rapid respiratory failure without musculoskeletal features. Anti-synthetase syndrome is a rare autoimmune disease with a wide spectrum of clinical manifestations involving the lungs, skin, joints and muscles. Eight autoantibodies are associated with the disease, and each has different clinical manifestations that vary slightly based on different anti-aminoacyl-tRNA-synthetase antibodies. Most individuals exhibit musculoskeletal features with varying degrees of interstitial lung disease, but some may exhibit isolated organ involvement only. These presentations pose unique challenges and considerations in the diagnosis and management. ***(Thorac Med 2025; 40: 130-137)***

Key words: Anti-synthetase syndrome, interstitial lung disease, autoantibodies, OJ (isoleucyl)

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Ectopic Intrapericardial Thymoma With Refractory Myasthenia Gravis: Case Report and Review of Literature

Cheng-Jung Lin[1,2], Tsai-Wang Huang[1]

Thymomas, primarily located in the anterior mediastinum, rarely occur in the intrapericardial region. We reported a 31-year-old male who was diagnosed with thymoma with myasthenia gravis (MG). Initial robotic-assisted thoracic surgery with thymectomy was performed, but refractory MG symptoms persisted. Due to the residual tumor, the patient underwent sternotomy, and an ectopic intrapericardial thymoma was resected. The postoperative course was uneventful, and the MG symptoms were under control. Accurate imaging, particularly magnetic resonance imaging, is crucial for diagnosis, while fluorodeoxyglucose-positron emission tomography is ineffective for ectopic thymoma detection. Minimally invasive surgery is commonly used for early thymomas, but open surgery may be preferable for cases with suspected pericardial invasion. Our experience underscored the importance of meticulous imaging and surgical planning to avoid missed diagnoses and incomplete resections of ectopic thymomas, particularly in refractory MG cases. ***(Thorac Med 2025; 40: 138-143)***

Key words: Ectopic intrapericardial thymoma, refractory myasthenia gravis, robotic-assisted thoracic surgery, sternotomy

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Pulmonary Melioidosis Mimicking Lung Cancer Diagnosed by Surgical Resection and Cured by Adequate Antibiotic Eradication Therapy: A Case Report and Literature Review

Kai-Yu Huang[1], En-Kuei Tang[2], Herng-Sheng Lee[3], I-Yuan Chen[1], Kuo-An Chu[1,4]

Melioidosis is an infectious disease caused by the Gram-negative bacterium *Burkholderia pseudomallei*, which is prevalent in Southeast Asia and northern Australia. Several risk factors have been identified for melioidosis infection, but its diagnosis remains challenging due to the wide variation of its clinical manifestations. Treatment of melioidosis requires appropriate antibiotics therapy, and, if necessary, surgical interventions for diagnosis or treatment should be considered. Here, we report a rare case of pulmonary melioidosis in a patient with a previous history of resected early-stage non-small cell lung cancer, presenting as an incidentally found asymptomatic, solitary pulmonary nodule. Due to a suspicion of recurrent metastatic malignancy, surgical removal of the lesion was arranged. Surprisingly, *Burkholderia pseudomallei*, rather than malignancy, was detected in tissue bacterial culture. Treatment with trimethoprim-sulfamethoxazole, and later, doxycycline plus amoxicillin-clavulanate, was prescribed for a total of 5 months, resulting in successful resolution without recurrence. ***(Thorac Med 2025; 40: 144-149)***

Key words: *Burkholderia pseudomallei*, COPD, lung cancer, melioidosis

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Multiple Mass-Like Lesions as a Rare Radiologic Finding of Pulmonary Syphilis: A Case Report

Yi-Chen Wang[1], Shu-Fang Huang[2]

Syphilis affects several organs and can lead to secondary conditions. However, pulmonary masses secondary to syphilis infection are rare. Here, we report a case in which a pulmonary mass with a cavity was incidentally detected.

A 68-year-old Taiwanese man with chronic kidney disease presented to our hospital complaining of general malaise and chronic axillary ulcers that had persisted for 1 month. Chest imaging incidentally revealed multiple masses with cavities in both lungs. Serial studies of the pulmonary lesions were performed without definitive findings. The patient was diagnosed with syphilis based on positive serological tests. During benzathine penicillin treatment, follow-up chest imaging and skin ulcers showed a therapeutic response to penicillin. A biopsy of the skin lesion revealed growth of *Treponema pallidum*. Gummatous syphilis was also confirmed in the skin and lungs. However, the serologic response and gummas had not completely resolved by the annual observation. Here, we discuss the potential etiology and further treatment of residual syphilis infections. ***(Thorac Med 2025; 40: 150-157)***

Key words: Case report, lung neoplasms, cavitation, *Treponema pallidum*, Spirochaetales infections, treatment outcome

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Delayed Life-Threatening Hemothorax After a Blunt Chest Trauma with Rib Fractures: A Case Report

Ya-Fu Cheng[1], Ching-Yuan Cheng[1]

Delayed hemothorax can occasionally occur following blunt chest trauma. However, life-threatening massive hemothorax that occurs after more than 72 h post-injury is rare. Here, we reported the case of a patient who had suffered blunt chest trauma accompanied with mild rib displacement, and who developed massive hemothorax 14 days after the injury. The patient underwent emergency video-assisted thoracoscopic surgery (VATS), and bleeding from the intercostal artery was successfully controlled. This case highlights the potential of a life-threatening massive hemothorax even after mild thoracic trauma. VATS proved to be a feasible method for diagnosing and managing intercostal artery bleeding. ***(Thorac Med 2025; 40: 158-163)***

Key words: chest trauma; delayed hemothorax; intercostal artery; video-assisted thoracoscopic surgery

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Bronchiolar Adenoma (BA)/Ciliated Muconodular Papillary Tumor (CMPT) of the Lung: a Case Report and Literature Review

Hsieh-Min Cheng[1], Ting-Chia Chang[1]

Bronchiolar adenoma (BA)/ciliated muconodular papillary tumor (CMPT) is a rare, low-grade malignant neoplasm of the lung's periphery, characterized by the proliferation of ciliated columnar cells, goblet cells, and basaloid cells. We described the case of a 68-year-old female who presented with progressive general malaise and anorexia for 3 months. Initial chest radiographs suggested nodules in the right upper and left lower lungs. Chest computed tomography scan identified multiple subpleural patches in the right upper, right lower, and left lower lobes. The patient underwent video-assisted thoracoscopic surgical wedge resections targeting these lesions in the right upper and right lower lobes. Histopathological examination of the resected right lower lobe confirmed BA/CMPT. This case contributes to the broader understanding of BA/CMPT, discussing its clinical and histological characteristics in the context of existing literature. ***(Thorac Med 2025; 40: 164-170)***

Key words: bronchiolar adenoma, ciliated muconodular papillary tumor

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Iatrogenic Tracheal Rupture Caused by Inadvertent Use of Airway Exchange Catheter for Double-Lumen Tube Replacement

Li-Yen Chang[1], Yu-Heng Li[2], Chen-Hsiang Chi[3], Yung-Wei Tung[4], Che-Hao Hsu[5]

Tracheobronchial rupture during double-lumen tube (DLT) placement is a rare, but potentially life-threatening complication. This complication is mostly due to direct trauma by the DLT. However, injury caused by the airway exchange catheter (AEC) during exchanging of the DLT is usually neglected. The AEC is widely used to increase the safety of changing endotracheal tubes (ETTs). An AEC is a long, small diameter, hollow, semi-rigid catheter that is inserted through an in situ ETT as a stylet guided for tracheal extubation and new intubation. After the ETT is withdrawn over the AEC, the AEC can also serve as a temporary conduit to administer oxygen manually through its hollow conduit during the exchange process. In the operation room setting, the AEC is commonly used for the exchange of a DLT. It avoids the risks of re-intubation and shortens the time for airway management. Although the AEC is considered a safe device, inadvertent use can cause catastrophic complications. Here, we reported the case of a 64-year-old woman who suffered from adenocarcinoma of the right middle lobe of the lung and received video-assisted thoracic surgery. After an atraumatic intubation of a DLT, an AEC was used to replace the DLT with an ETT at the conclusion of the surgery. A partial disruption of the membranous trachea, which may have resulted from the use of an AEC, was identified after operation. ***(Thorac Med 2025; 40: 171-176)***

Key words: Tracheal rupture, double-lumen tube, airway exchange catheters

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Segmental Volume Reduction Through Bronchoscopic Thermal Vapor Ablation in Symptomatic Heterogeneous Emphysematous Chronic Obstructive Pulmonary Disease - 4 Case Reports

Szu-Yu Liu[1], Jeng-Shiuan Tsai[1], Chian-Wei Chen[1], Po-Lan Su[1], Yau-Lin Tseng[2], Chang-Wen Chen[1], Chin-Wei Kuo[1]

Bronchoscopic lung volume reduction techniques improve lung function and dyspnea symptoms in chronic obstructive pulmonary disease (COPD) patients with upper lung-dominant heterogeneous emphysema. Bronchoscopic thermal vapor ablation (BTVA) is a treatment with an acceptable safety profile for these patients. However, this technique is rarely performed in Taiwan, and there is a lack of experience using it. We performed BTVA for 4 symptomatic COPD patients with upper lung-predominant heterogeneous emphysema, despite having received adequate bronchodilator treatment between January 2022 and June 2023. These patients were aged between 45 and 69 years, had baseline predicted FEV1 values ranging from 28% to 75%, and exhibited substantial hyperinflation. The baseline COPD Assessment Test (CAT) scores ranged from 10 to 22. Three patients received BTVA once on a unilateral lung, and 1 patient underwent staged BTVA on the ipsilateral lung. Post-BTVA pneumonitis was observed in 1 patient, and there was improvement after steroid and antibiotic treatment. Three of the 4 patients experienced a reduction in emphysema as observed on chest CT scans, improvements in FEV1, reduced residual volume, lower CAT scores, and stable exercise capacity. One patient was lost to follow-up for unknown reasons. BTVA is effective and safe for symptomatic COPD patients with upper lung-predominant heterogeneous emphysema and poor lung function. ***(Thorac Med 2025; 40: 177-183)***

Key words: BTVA, COPD, emphysema

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A Rare Presentation of Lung Adenocarcinoma with Duodenal Metastasis

Yu-Mu Chen[1,2], Kuo-Tung Huang[1], Chieh-Hao Lai[1], Meng-Chih Lin[1,3], Sheng-Wei Tu[1]

Lung adenocarcinoma with duodenal metastasis is extremely uncommon. We report a case of duodenal metastasis from primary lung adenocarcinoma that presented with upper gastrointestinal bleeding. Tumor cells showed immunopositivity for thyroid transcription factor 1 and cytokeratin-7 (CK7), and immunonegativity for CK20, synaptophysin and CDX2, suggesting the diagnosis of metastatic adenocarcinoma of lung origin. ***(Thorac Med 2025; 40: 184-188)***

Key words: Lung adenocarcinoma, metastasis

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Pulmonary Endometriosis Diagnosed Using Bronchial Washing Cytology – A Case Report and Literature Review

Felisbela Gomes[1], Ping-Huai Wang[1], Sow-Hsong Kuo[2,3], Shih-Lung Cheng[1,4]

Catamenial hemoptysis is a rare disorder. We reported the case of a 40-year-old woman who had been quite well before experiencing symptoms. She suffered from recurrent hemoptysis in menstruation. The fiberoptic bronchoscopy yielded no endobronchial lesions. The diagnosis of catamenial hemoptysis was confirmed by cytologic examination of a bronchial washing specimen with endometrial cells. She was successfully treated with long-acting gonadotropin-releasing hormone. Based on this case, bronchoscopic examination and further bronchial washing cytology are suggested to be used in the diagnosis of catamenial hemoptysis during the period of menstruation, in spite of the high probability of normal findings by bronchoscopy. ***(Thorac Med 2025; 40: 189-193***)

Key words: Catamenial hemoptysis, thoracic endometriosis syndrome, fiberoptic bronchoscopy, bronchial washing cytology

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