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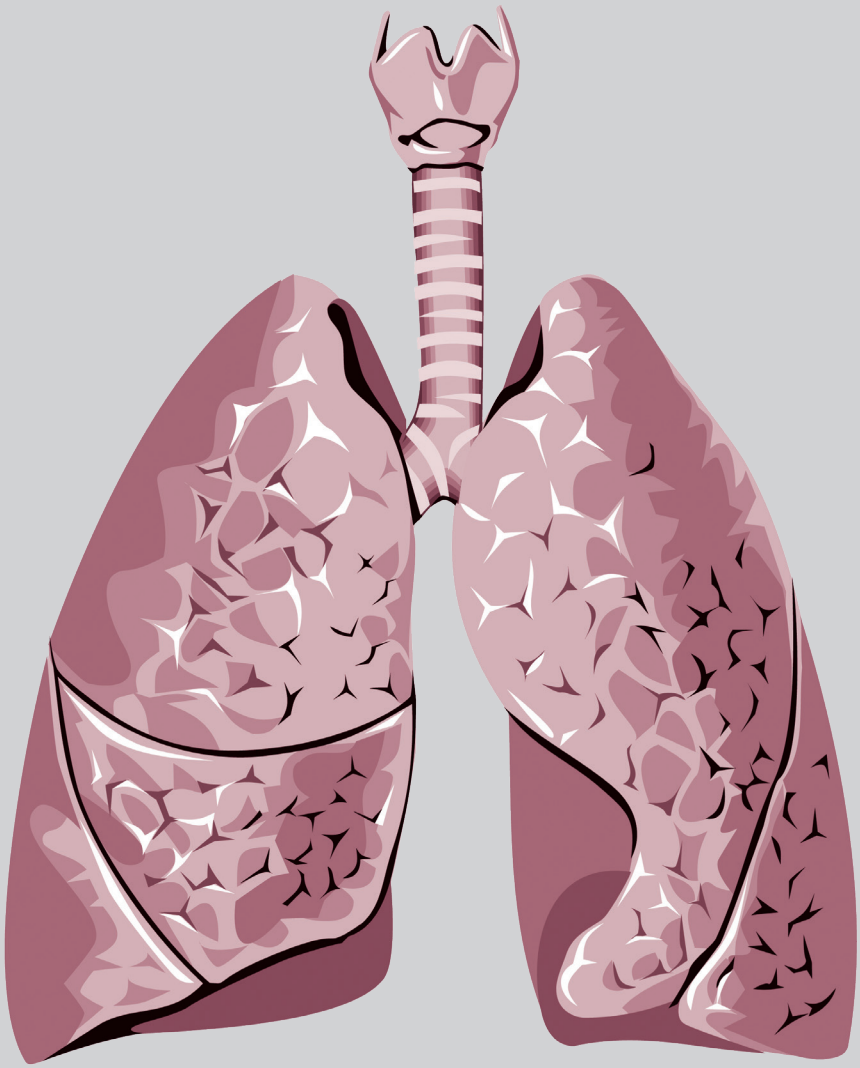

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Original Articles

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Prognostic Implications of Pneumococcal Urine Antigen Positivity in Critically Ill COVID-19 Patients

Hsieh-Ping-Ju[1], Wei-An Chang[1,2], Ming-Ju Tsai[1,2], Chau-Chyun Sheu[1,2], Jen-Yu Hung[1,2], Cheng-Hao Chuang[1]

Background: *Streptococcus pneumoniae* is a major cause of pneumonia and has contributed to high mortality in respiratory infections. The impact of pneumococcal co-infection during the COVID-19 pandemic is unclear. This study evaluated the clinical effects of pneumococcal co-infection, as indicated by a positive urine antigen test (UAT), in severe COVID-19 patients admitted to a quarantine intensive care unit (ICU) in Taiwan.

Methods: From May to July 2022, 162 patients with severe COVID-19 were admitted to the COVID-19 quarantine ICU; 101 (62%) of the patients had available pneumococcal UAT results and detailed clinical data. These patients were divided into UAT-positive and UAT-negative groups to assess the impact of pneumococcal co-infection. Clinical characteristics, comorbidities, vaccination status, procalcitonin levels, and the use of advanced respiratory support were compared between the 2 groups.

Results: Pneumococcal antigen positivity was 18% (18/101). UAT-positive patients were older and had significantly higher APACHE-II scores (21.5 vs. 15, $p = 0.02$) and baseline procalcitonin levels (3.28 vs. 0.30 ng/mL, $p < 0.01$). The UAT-positive population received more empiric antibiotics (100% vs. 80%, $p = 0.04$) and required more advanced respiratory support (78% vs. 49%, $p = 0.036$). However, no significant differences were observed in ICU stay, hospital stay, or in-hospital mortality between the 2 groups. Prior pneumococcal vaccination did not significantly reduce mortality or disease severity.

Conclusion: Pneumococcal co-infection in severe COVID-19 patients was associated with increased disease severity and advanced respiratory support needs but not with higher mortality or prolonged hospitalization. Further research on the role of pneumococcal vaccination in COVID-19 outcomes is needed. ***(Thorac Med 2026; 41: 48-56)***

Key words: pneumococcal infection, pneumococcus urine antigen, COVID-19, respiratory failure

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Clinicopathological and Prognostic Characteristics of Lymphoepithelial Carcinoma of the Lung: a Single-Institution Experience in Central Taiwan

Shao-En Hung[1], Yu-Ting Yu[2,3]

Introduction: According to the 2021 WHO classification, lymphoepithelial carcinoma of the lung (LCL) is an uncommon Epstein-Barr virus (EBV)-associated form of squamous cell carcinoma, predominantly affecting East Asian non-smokers. It shares morphological features with undifferentiated nasopharyngeal carcinoma (NPC) and has a favorable prognosis. This study retrospectively analyzed 16 LCL patients to evaluate clinical, pathological, and prognostic characteristics.

Methods: Patients diagnosed with LCL (January 2017– December 2024) at a medical center were included. Data on demographics, clinical stage (American Joint Committee on Cancer, 8th edition), treatments (surgery, chemotherapy, immunotherapy, radiotherapy), and pathology (immunohistochemistry, EBV-encoded small RNA in situ hybridization [EBER-ISH]) were collected. Statistical analyses included Fisher's exact test and Kaplan-Meier survival analysis using MedCalc version 23.

Results: Of the 4,726 patients with newly diagnosed lung cancer at our institution between 2017 and 2024, 16 (0.34%) were diagnosed with LCL. The median age of the patients at diagnosis was 58 years (range: 40–74), with a female predominance (56.3%) and 62.5% being non-smokers. Seven patients (43.8%) were asymptomatic at diagnosis, with lesions detected incidentally during health screening. Thirteen patients (81.3%) presented with advanced-stage disease (stage III/IV), which was significantly higher than in the non-LCL lung cancer group. Surgical resection was performed in 13 patients, with lobectomy being the most common procedure. Nine patients received combined chemotherapy and immunotherapy; however, most showed a poor response despite high PD-L1 expression in some cases. Six patients receiving immunotherapy (37.5%) experienced tumor recurrence, with a median time to recurrence of 15 months. The 2-year and 5-year overall survival rates were 100% and 57.1%, respectively.

Conclusion: LCL is a rare EBV-associated subtype of NSCLC with a predilection for Asian, non-smoking populations. Despite a generally more favorable prognosis than other

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Longitudinal Analysis of Type 2 Inflammatory Markers and Clinical Outcomes in T2-High Severe Asthma Patients Treated with Benralizumab

Chia-Wei Chang[1], Shin-Wei Wu[1], Ying-Chieh Chen[1], Li-Ting Cheng[1], Shin-En Tang[1,2,3], Chen-Liang Tsai[1], Chia-Hsin Liu[1]

Introduction: This study investigated the effects of benralizumab on dynamic changes in type 2 (T2) markers (blood eosinophils, total IgE levels) and their correlations with clinical outcomes in T2-high severe asthma.

Methods: Twenty patients with severe eosinophilic asthma treated with benralizumab were prospectively followed. Assessments included Asthma Control Test (ACT) scores, forced expiratory volume in 1 second (FEV1), acute exacerbations (AEs), oral corticosteroid (OCS) use, and T2 markers at baseline, 6 months, and 12 months.

Results: Benralizumab significantly improved ACT scores at 6 months (5.88 ± 1.49, p = 0.01) and 12 months (5.57 ± 1.74, p = 0.04), with FEV1 increasing by 0.33 ± 0.11 L at 6 months (p = 0.049) and 0.056 ± 0.01 L at 12 months (p = 0.010). AE frequency and OCS use significantly decreased, with AE reductions of 1.93 ± 0.35 (p = 0.0002) and 1.27 ± 0.29 (p = 0.0024), and OCS dose reductions of 4.53 ± 0.89 mg (p = 0.0003) and 5.00 ± 1.3 mg (p = 0.006) at 6 and 12 months, respectively. Blood eosinophils significantly decreased, while total IgE levels showed no significant changes. Baseline blood eosinophil and baseline total IgE levels showed a moderate correlation (r = 0.45, p = 0.041). Baseline total IgE levels were inversely correlated with OCS reductions at 6 months (r = -0.54, p = 0.038) and 12 months (r = -0.50, p = 0.049).

Conclusion: Benralizumab significantly improved clinical outcomes in T2-high severe asthma and influenced T2 marker dynamics, with baseline total IgE levels correlated with OCS dose reductions. ***(Thorac Med 2026; 41: 66-76)***

Key words: T2-high severe asthma, benralizumab, eosinophils, IgE

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Graves' Disease Complicated with Left Subclavian Vein Thrombosis and Subsequent Chylothorax: A Unique Case Report

Hung-Teng Yen[1], Meng-Rui Lee[1], Ching-Yi Lee[2], Shih-Wei Lee[2], Kuan-Yu Chen[1]

A 52-year-old man with a history of irregularly controlled hyperthyroidism presented with exertional dyspnea, left upper limb swelling, and rapid weight loss. Diagnostic imaging revealed a diffusely enlarged goiter, right lower lung pulmonary embolism, left subclavian vein thrombosis, bilateral massive pleural effusion, and massive ascites. Graves' disease was diagnosed based on compatible symptoms, signs, elevated free thyroxine, suppressed thyroid-stimulating hormone, and positive thyrotropin-binding inhibitor immunoglobulin. The patient was then treated with carbimazole. Diagnostic thoracentesis, and paracentesis revealed chylothorax and chylous ascites. Lymphangiography showed slowed passage of lymph, abnormal reflux of lymph into the mediastinum, and a dilated thoracic duct that ended at the thrombosed segment of left subclavian vein. Despite interventions including thoracentesis, nil per os status, total parenteral nutrition, and anticoagulation therapy, the patient showed limited improvement, necessitating advanced interventions such as thrombectomy and catheter-directed thrombolysis. Follow-up showed a decreasing trend in pleural effusion, and the patient was then discharged smoothly. This case highlights a rare presentation of Graves' disease with subsequent left subclavian vein thrombosis, complicated by bilateral chylothorax and chylous ascites, not previously reported in the literature. ***(Thorac Med 2026; 41: 77-83)***

Key words: Chylothorax, deep vein thrombosis, left subclavian vein thrombosis, Graves' disease, hyperthyroidism

Introduction

Chylothorax, defined as a pleural effusion containing chyle [1], is relatively uncommon and accounts for around 3% of all pleural effusions [2]. The mechanism of chylothorax includes direct trauma to the thoracic duct, obstruction of the thoracic duct, and transdiaphragmatic chyle movement. It is mostly caused by trauma and malignancies, which are responsible for 50% and 30% of cases, respectively [3]. Central venous thrombosis is an uncommon

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Giant Bulla Appearing Like Tension Pneumothorax: A Case Report

Sheng-Fu Chen[1], Yi-Ching Yang[2], Te-Chun Shen[1,3]

Giant bullae are large air-filled spaces in the lungs that can mimic tension pneumothorax in both symptoms and imaging, posing a diagnostic challenge. A 24-year-old male presented with progressive dyspnea. Chest radiography revealed hyperlucency and mediastinal shift. Computed tomography (CT) confirmed a giant bulla in the right lung. Surgical bullectomy was performed, and the patient recovered well postoperatively. Giant bullae can resemble tension pneumothorax radiographically and clinically. CT imaging is essential for accurate diagnosis. Misdiagnosis may lead to inappropriate interventions such as chest tube insertion, causing serious complications. Clinical awareness is critical to avoiding iatrogenic harm. ***(Thorac Med 2026; 41: 84-87)***

Key words: giant bulla; pneumothorax; computed tomography (CT)

Introduction

Giant bullae are large, air-filled spaces in the lung, often resulting from chronic smoking-related alveolar destruction [1]. They can compress surrounding lung tissue and cause respiratory symptoms. Radiographically, giant bullae may closely resemble tension pneumothorax, especially on chest X-rays, making differentiation challenging [2]. Accurate diagnosis is essential to prevent inappropriate interventions such as chest tube insertion, which may lead to complications. Here, we present the case of a young man with a giant bulla mimicking tension pneumothorax.

Case Presentation

A 24-year-old young male without a specific medical history or congenital disorders, except for a 10-year habit of smoking half a pack of cigarettes daily, presented with progressive shortness of breath over the past 6 months. The patient denied any fever, body weight loss,

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Intraoperative Nerve Monitoring-Assisted Tracheal Resection for Post-Intubation Tracheal Stenosis: A Case Report

Ying-Shian Chen[1,2], Yi-Hsiang Lai[3], Tsai-Wang Huang[3]

Tracheal resection for post-intubation tracheal stenosis (PITS) poses significant risks, particularly to the recurrent laryngeal nerves (RLN), due to dense fibrosis and proximity to the larynx. Intraoperative nerve monitoring (IONM), although widely adopted in thyroid surgery, is rarely used in tracheal surgery due to challenges in airway access and electrode positioning. We reported the case of a 73-year-old man with PITS successfully managed with tracheal resection and bilateral RLN monitoring using IONM. Customized intraoperative strategies allowed for safe nerve identification despite limited space and difficult anatomy. The patient recovered without hoarseness or vocal cord palsy, suggesting that IONM may offer functional benefits in selected high-risk tracheal surgeries. ***(Thorac Med 2026; 41: 88-94)***

Key words: intraoperative nerve monitoring, tracheal resection, recurrent laryngeal nerve

Introduction

Post-intubation tracheal stenosis (PITS) is an uncommon but potentially debilitating condition, with an estimated annual incidence of 0.049%. Tracheal resection and reconstruction remain rare, and complex procedures typically are performed in specialized centers. Benign tracheal conditions such as PITS pose distinct challenges due to fibrosis, adhesions, and altered anatomy, particularly in patients with prior tracheostomy or multiple airway interventions. This report describes a case of cricotracheal resection utilizing intraoperative nerve monitoring (IONM), highlighting its potential benefits in preserving recurrent laryngeal nerve function during high-risk surgery.

Case Presentation

The patient was a 73-year-old male with a history of chronic obstructive pulmonary disease (COPD) and coronary artery disease, who underwent coronary artery bypass grafting in October 2024. Approximately 2 months postoperatively, he presented to the emergency

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