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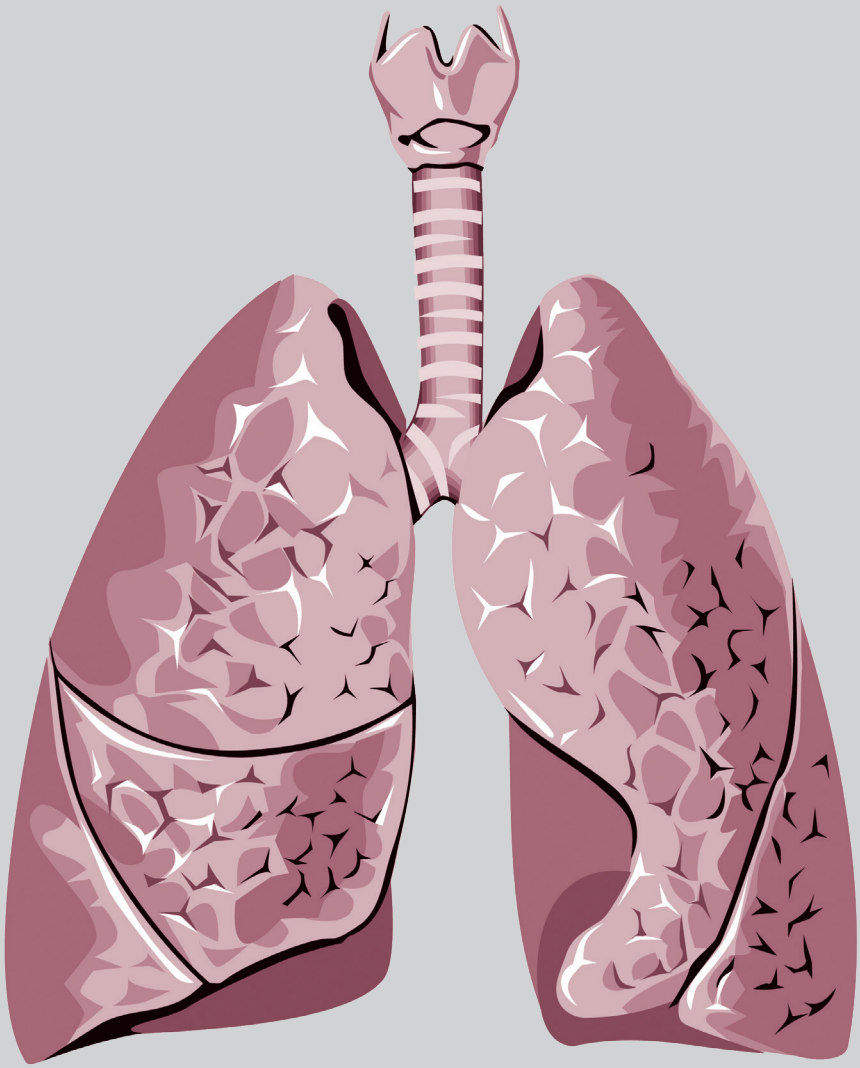

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CONTENTS

The Association Between Metformin Use and Outcomes of Hospitalized COVID-19 Patients

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Background: Metformin is a widely prescribed medication for type 2 diabetes; however, therapeutic effects beyond glucose control have been reported. Recent studies have suggested its potential in alleviating symptoms of post-COVID-19 condition (long COVID), and possibly shortening the duration of the disease. We conducted this study to investigate whether metformin use could improve the outcomes of hospitalized COVID-19 patients.

Methods: We included patients diagnosed with COVID-19 infection at MacKay Memorial Hospital from May to June 2021. We categorized the patients into metformin and non-metformin use groups, regardless of their diabetes mellitus status.

Results: A total of 285 patients were included. After propensity score matching, 82 patients were enrolled for analysis, including 41 patients in each group. Cox proportional hazards analysis showed that mortality was not related to metformin use (adjusted hazard ratio [aHR]: 0.67, 95% confidence interval [CI]: 0.05-9.2, p=0.76) or duration of metformin use (aHR: 0.91, 95% CI: 0.74-1.13, p=0.40). However, patients with a longer duration of metformin use had a higher risk of receiving invasive mechanical ventilation support (aHR: 1.08, 95% CI: 1.03-1.13, p=0.003).

Conclusion: Our findings showed that mortality was not significantly associated with metformin use or its duration. However, patients with a longer duration of metformin use appeared to have a higher risk of requiring invasive mechanical ventilation support. Consequently, the duration of metformin use may be linked to the progression of COVID-19. Further studies are warranted to clarify the relevance of metformin use in the treatment of COVID-19. ***(Thorac Med 2025; 40: 194-201)***

Key words: Metformin, COVID-19, mortality, mechanical ventilation

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Prognosis of *EGFR*-mutated Non-small Cell Lung Cancer Patients with Intra-abdominal Metastases

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Horng-Chyuan Lin[1,3], Cheng-Ta Yang[1,4,5], How-Wen Ko[1,3]

Background: Non-small cell lung cancer (NSCLC) patients generally have a poor prognosis with distant metastasis. Studies have found that NSCLC patients with epidermal growth factor receptor (*EGFR*) mutations exhibit a higher incidence of brain and bone involvement, which worsens prognosis. However, little is known about the outcomes of *EGFR*-mutated patients with intra-abdominal metastasis.

Materials and Methods: This retrospective study included 383 metastatic NSCLC patients with an *EGFR* mutation who received first-line gefitinib, erlotinib or afatinib at our hospital between January 2016 and December 2017.

Results: Ninety-eight patients (26%) had intra-abdominal metastasis, including liver (47), adrenal/renal (42), and abdominal lymph node/spleen (31) metastasis. In patients with intra-abdominal metastasis, overall survival (OS) (median, 17.5 vs. 32.7 months; $p < 0.001$) and progression-free survival (PFS) (median, 9.15 vs. 14.7 months; $p < 0.001$) were significantly shorter than in those without intra-abdominal metastasis. Compared to *EGFR*-mutated patients with only intra-thoracic metastasis (stage M1a), patients with intra-abdominal metastasis had the worse OS (hazard ratio (HR), 2.894; 95% confidence interval (CI), 2.051–4.082; $p < 0.001$), with the most severe reduction in OS in patients with adrenal/renal metastasis (HR, 5.646; 95% CI, 3.309–9.633; $p < 0.001$). No significant differences were observed in prognosis and response to first-line *EGFR*-TKIs between patients with an L858R mutation and those with an exon 19 deletion. The frequency of acquired T790M mutations was lower in patients with intra-abdominal metastases than in those without, but without statistical significance.

Conclusion: Intra-abdominal metastasis in *EGFR*-mutated NSCLC patients was associated with poor survival, with the worst outcomes in those with adrenal/renal metastasis.
(Thorac Med 2025; 40: 202-212)

Key words: Intra-abdominal metastasis, liver, adrenal, *EGFR*, NSCLC

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Clinical Features of Thoracic Actinomycosis: Experience with 16 Cases at a Regional Hospital in Southern Taiwan

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Background: Thoracic actinomycosis is a rare bacterial infection. This study aimed to enhance clinicians' knowledge of this rare condition in clinical practice.

Materials and Methods: We retrospectively analyzed 16 patients with histopathologically confirmed thoracic actinomycosis treated between 1995 and 2012.

Results: Almost all patients had a cough (87.5%, 14/16) with hemoptysis (75%, 12/16) or sputum (56.3%, 9/16). The radiographic picture included a speripheral mass or consolidation (68.8%, 11/16), pleuritis with or without effusion (43.8%, 7/16), and mediastinal lymphadenopathy (37.5%, 6/16). Five out of the 16 (31.3%) patients were diagnosed non-surgically, received medical therapy alone, and had excellent outcomes. Two patients exhibited endobronchial involvement associated with foreign bodies. All 16 patients responded well to penicillin, followed by ampicillin (8/16), amoxicillin (3/16), clindamycin (1/16), minocycline (2/16), erythromycin (1/16), or no antibiotic treatment (1/16). The patients??? had a good prognosis with no relapse.

Conclusion: Foreign body-induced endobronchial infection responded favorably to foreign body removal and a short course of antibiotics. Medical therapy alone is often sufficient for a cure. When encountering this condition, the pulmonologist should consider the probability of actinomycosis, then diagnose the condition least invasively, thereby avoiding unwarranted surgery. ***(Thorac Med 2025; 40: 213-221)***

Key words: actinomycosis; bronchoscopy; pathology; pulmonary; thoracic disease; treatment

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Subclavian Artery Aneurysm Mimicking a Lung Mass: A Case Report and Literature Review

Yu-Ting Lin[1], Shan-Yao Yang[2], I-Ming Chen[3,4], Chia-I Shen[1,4,5]

Subclavian artery aneurysm is a rare vascular disorder that can mimic lung masses in imaging studies, often leading to diagnostic challenges. We reported the case of a 70-year-old man who presented with hemoptysis and progressive left-side chest pain. Initial imaging without contrast suggested a left upper lobe lung mass with mediastinal invasion. Despite multiple diagnostic attempts, no malignancy was identified. Further evaluation with Doppler ultrasound and contrast-enhanced computed tomography revealed a left subclavian artery aneurysm, with a characteristic "yin-yang" sign detected by the Doppler ultrasound. The patient underwent successful endovascular stent placement and showed clinical improvement. In this case report, we reviewed the possible presentation, diagnostic approach, and management strategies of this rare disease. We also highlighted how multi-modality imaging techniques—such as ultrasonography—can offer enhanced diagnostic value. ***(Thorac Med 2025; 40: 222-228)***

Key words: Subclavian artery aneurysm, yin-yang sign

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Lethal Complication of Post-air-way Stenting to Trachea and Left Main Bronchus: A Case Report

Kuan-sun Lin[1], Tsai-Wang Huang[1]

Insertion of a metallic airway stent is a valuable method for the treatment of benign and malignant airway stenosis and a tracheal-esophageal fistula. Although stenting for airway stenosis has become widely used, with favorable outcomes, several complications after stenting, such as migration, a tendency for stent fracture, and ingrowth of the tumor or granulation tissue in the stent have occurred. Very few of these reports have described the complications of post-stenting pneumothorax. We report the case of a patient diagnosed with squamous cell carcinoma of the esophagus, complicated by a tracheal-esophageal fistula and treated with a tracheal stent or bronchial stent, who developed post-stenting pneumothorax. Esophageal cancer led to the lethal complication of the tracheal-esophageal fistula, which was complicated in handling. Although tracheal and left main bronchial airway stent placement remains a high risk, careful selection of stents (Y-stents) and placement location can reduce postoperative fatal complications. ***(Thorac Med 2025; 40: 229-232)***

Key words: airway stent, complication, pneumothorax, squamous cell carcinoma of the esophagus

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Pulmonary Cryptococcosis Coexisting with Metastatic Pulmonary Tumors: A Case Report

Chen-Chuan Hsu[1], Chiung-Hsin Chang[1], Tai-Di Chen[2], Yu-Hsiu Chen[2], Jia-Shiuan Ju[1], How-Wen Ko[1]

Pulmonary cryptococcosis (PC) is a common disease caused by *Cryptococcus neoformans* infection. Differentiating PC from pulmonary malignancy in the setting of multiple pulmonary lesions can be challenging. We reported a patient with biopsy-proven PC and metastatic pulmonary tumors, and discuss the clinical reasoning behind the managing of multiple pulmonary nodules. ***(Thorac Med 2025; 40: 233-238)***

Key words: pulmonary cryptococcosis, lung metastasis, treatment response, multiple pulmonary nodules

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