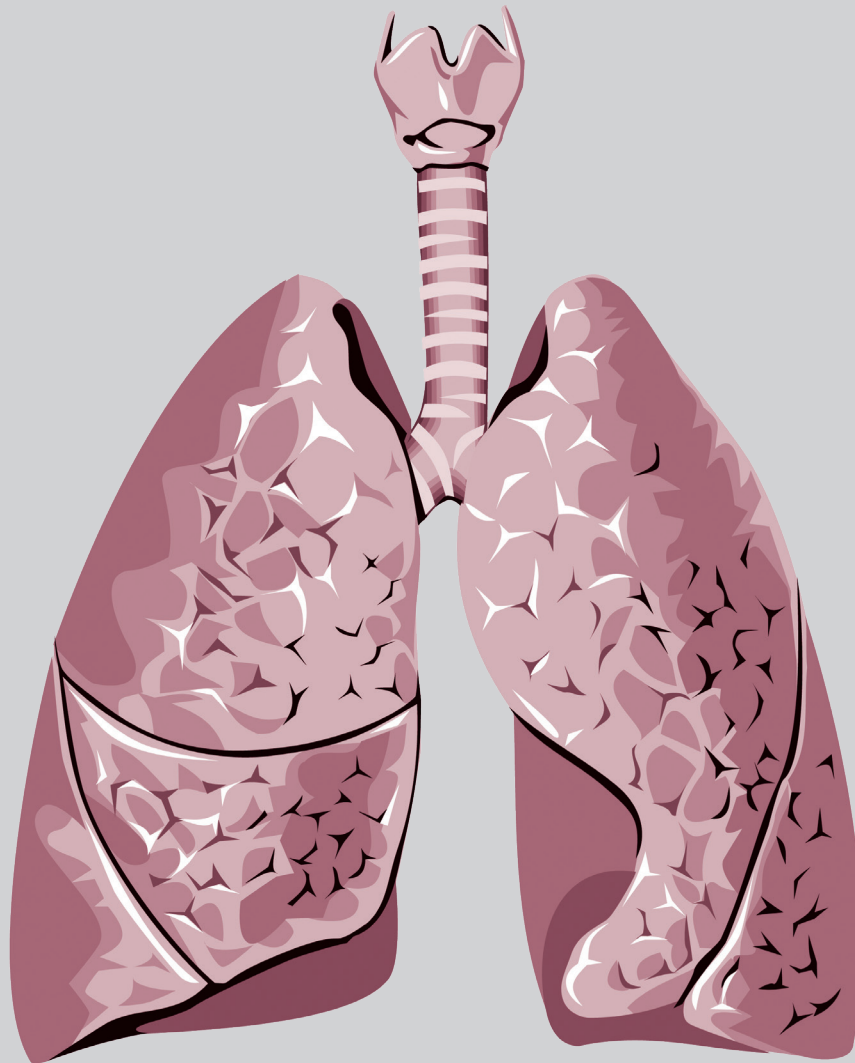


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Impact of High Eosinophil Counts on Clinical Outcomes of COPD Patients Who Have Received Inhaled Corticosteroids Therapy

Tsu-Chuan Li¹, Chen-Chuan Hsu¹, Shih-Wei Huang¹, Bing-Chen Wu¹,
Hao-Ming Wu¹, Shu-Min Lin^{1, 2, 3, 4, *}

Introduction: COPD patients on inhaled corticosteroids (ICS)-based therapy typically have more severe profiles. Although ICS is recommended for those with high blood eosinophils, its effectiveness in reducing exacerbations is uncertain. This study evaluated clinical outcomes of COPD patients on ICS, focusing on an absolute eosinophil count (AEC) ≥ 300 cells/ μ L.

Methods: A retrospective study was conducted at Linkou Chang Gung Memorial Hospital (2014–2020) using GOLD criteria. Patients underwent tests including a 6-minute walk test, echocardiography, pulmonary function tests, and blood analyses. They were divided into ICS (+) and ICS (–) groups, with the ICS group further stratified by AEC. Outcomes measured over 3 years included acute exacerbations (AEs), emergency visits, hospitalizations, and mortality. Logistic regression identified risk factors for AEs.

Results: Among the 142 patients, the ICS (+) group ($n = 48$) had worse clinical profiles than the ICS (–) group ($n = 94$), including higher mMRC scores, elevated AEC and BODE indices, poorer lung function, and greater FEV₁ decline. Within the ICS-treated group, patients with AEC ≥ 300 cells/ μ L ($n = 24$) experienced more AEs. Multivariate analysis identified high AEC (OR 16.074, $p = 0.004$) and lower FEV₁ (OR 0.923, $p = 0.005$) as independent predictors of AEs.

Conclusion: An elevated AEC (≥ 300 cells/ μ L) independently predicts higher AE risk in COPD patients on ICS, suggesting that ICS-based therapy may be insufficient for high-risk patients and that personalized treatments are needed. (*Thorac Med* 2026; 41: 95-104)

Key words: eosinophil, COPD, inhaled corticosteroids, outcomes

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Asthma Control Test (ACT) as a Predictive Tool for Asthma Control Defined by GINA Guidelines: A Retrospective Study

Po-Wen Huang¹, Chia-Wei Chang², Yun-Ching Wang², Ying-Chieh Chen², Chia-Hsin Liu², Yu-Lung Chiu⁴, Chih-Hao Shen², Shih-Wei Wu², Chen-Liang Tsai², Chung-Kan Peng², Shan-Yueh Chang^{2,3}

Introduction: Both the Asthma Control Test (ACT) and the Global Initiative for Asthma (GINA)-based assessment are widely used tools for monitoring treatment outcomes, yet they have been found to yield differing assessments of asthma control. This study aims to correct the discrepancies between the ACT score and GINA classification.

Methods: This retrospective study enrolled adult patients diagnosed with asthma who visited the chest OPD in Tri-Service General Hospital from February 2024 to October 2024. The GINA classification served as the reference standard to evaluate asthma control, while the ACT score was considered the predictive measure. We used receiver operating characteristic (ROC) curve analysis and Youden's index to find the optimal ACT cut-off point for prediction of well-controlled asthma.

Results: A total of 967 patients with asthma were included in our study. When using the cut-off point of ≥ 20 for ACT well-controlled asthma, the ACT score predicted GINA to be “well controlled” and showed sensitivity of 100% and specificity of 35.4%, while Youden's index was 0.354. When using the cut-off point of ≥ 24 for ACT well-controlled asthma, the ACT score showed sensitivity of 87.4% and specificity of 87.2%, while Youden's index was 0.747.

Conclusion: Based on the ROC curve and Youden's index, the optimal ACT cut-off point defining “well-controlled” was ≥ 24 . The discrepancy underscores the importance of using both ACT and GINA criteria in conjunction to achieve optimal asthma management. (*Thorac Med* 2026; 41: 105-114)

Key words: asthma, GINA, Asthma Control Test

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Challenges in Using the Mandarin Term for “Nontuberculous Mycobacteria” in Taiwan: A Survey of Healthcare Providers’ Perspectives

Yu-Hsun Chiang¹, Sheng-Wei Pan¹, Jia-Yih Feng¹

Introduction: The Mandarin term for “nontuberculous mycobacteria” (NTM, 非結核分枝桿菌) often confuses Taiwanese patients, as it is easily mistaken for tuberculosis. This study explored whether alternative Mandarin terms would be preferred by healthcare providers for patient communication.

Methods: An online questionnaire was sent to 571 clinical trainees in the Department of Chest Medicine at our hospital (2022–2024), assessing their opinions and preferences regarding alternative Mandarin terms for NTM, including “environmental mycobacteria”(環境分枝桿菌), “atypical mycobacteria” (非典型分枝桿菌), and “mycobacteria other than tuberculosis” (結核以外分枝桿菌). Participants completed pre- and post-tests following a brief introduction.

Results: Of the 70 respondents, 51.4% had cared for NTM patients. Over 85% believed the current Mandarin term causes confusion with tuberculosis. Only 7% found “environmental mycobacteria” potentially confusing, compared to 20% for “atypical mycobacteria” and 71% for “mycobacteria other than tuberculosis” ($p = 0.039$ and $p = 0.001$). In the single-choice question, 64.3% selected “environmental mycobacteria” as the most intuitive option, this increased to 77.1% after an educational introduction ($p = 0.035$). Overall, 75.7% favored it for its clarity and accuracy.

Conclusion: Based on the perspectives of healthcare providers, using the Mandarin term for “nontuberculous mycobacteria” presented challenges due to its potential for confusion with tuberculosis. “Environmental mycobacteria” was a clearer alternative that may better support patient education and understanding. (*Thorac Med* 2026; 41: 115-123)

Key words: Environmental mycobacteria; Mandarin medical terminology; nontuberculous mycobacteria (NTM); Taiwan

Introduction

Nontuberculous mycobacteria (NTM) are widely distributed in the environment and are

commonly found in water and soil. The major NTM species associated with human disease include the *Mycobacterium avium* complex (MAC), the *Mycobacterium abscessus* group,

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Pulmonary Alveolar Proteinosis Secondary to Pulmonary Tuberculosis

Mu-Han Peng¹, Po-Hsin Lee¹, Jing-Tong Fu², Yen-Hsiang Huang¹, Tsung-Ying Yang¹

Pulmonary alveolar proteinosis (PAP) is a rare lung disease characterized by the accumulation of lipo-proteinaceous materials within the alveoli. Currently, whole lung lavage is the gold standard of treatment. Secondary PAP is secondary to a number of conditions, such as infections, hematological diseases, occupational exposure, and toxin inhalation. Cases secondary to pulmonary tuberculosis (TB) are rarely reported.

We present a case of PAP secondary to pulmonary TB, with symptoms and image findings showing significant improvement after anti-TB treatment alone, without whole lung lavage. Our findings underscore the necessity to check for pulmonary TB in patients diagnosed with PAP, and emphasize the need for further research on the association of PAP and pulmonary TB. (*Thorac Med* 2026; 41: 124-130)

Key words: pulmonary alveolar proteinosis; pulmonary tuberculosis

Introduction

Pulmonary alveolar proteinosis (PAP), first reported by Rosen *et al* in 1958 [1], is a disease characterized by lipo-proteinaceous materials accumulating within the alveoli, causing respiratory symptoms. Some of these cases are found secondary to infections, hematological diseases, occupational exposure or toxin inhalation [2]. In Taiwan, a case secondary to invasive rhinocerebral aspergillosis has been reported [3]. Few reports on PAP secondary to pulmonary tuberculosis (TB) have been published [4-8]. PAP

patients are also known to have higher risks of secondary infections, including pulmonary TB, which is likely related to macrophage dysfunction [9]. In Taiwan, pulmonary TB remains an important issue. In 2023, the incidence of TB was 28.2 cases per 100,000 population [10]. Awareness of TB in patients diagnosed with PAP is crucial.

We present here a case of PAP secondary to pulmonary TB, with improvement of both symptoms and image findings observed after treatment with an anti-TB agent only.

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Case Report: Transthoracic Echocardiography for Dissection Flap in Descending Thoracic Aorta

Da-Chun Hsu¹, Sheng-Wei Pan¹

Aortic dissection is a potentially fatal condition that requires timely diagnosis and management. Point-of-care ultrasound has been reported to aid in the diagnosis of this condition. However, diagnosing dissection in a descending thoracic aorta remains challenging due to limited acoustic windows for transthoracic ultrasound. We reported the case of a 46-year-old man who presented with chest tightness and right lower limb pain. A dissection flap in the descending thoracic aorta was identified using bedside transthoracic echocardiography (TTE), and subsequently was confirmed by computed tomography. This case highlights the potential of using TTE to facilitate the rapid identification of descending aortic dissection, which can significantly influence early clinical decision-making. (*Thorac Med* 2026; 41: 131-134)

Key words: aortic dissection; echocardiography; point-of-care ultrasound (POCUS)

Introduction

Aortic dissection is a life-threatening condition with a mortality rate exceeding 50% [1-3]. Early diagnosis of this illness is critical for patient outcome and reduces mortality by 30% to 60% [4-6]. Although computed tomography (CT) remains the gold standard of diagnosis, the use of point-of-care ultrasound (POCUS) has emerged and demonstrated its advantages in early detection [7-9]. A combination of these 2 imaging modalities appears to be the best way to diagnose and assess the details of acute aortic syndrome, leading to appropriate management

[10]. Using bedside ultrasound, a skilled physician can identify a dissection flap in the ascending aorta or abdominal aorta in a practical way. However, it is still challenging for a physician to identify a dissection flap in the descending thoracic aorta using transthoracic echocardiography (TTE) [7]. Hence, such ultrasound images are rarely reported, despite the frequency of the condition.

Case Presentation

A 46-year-old previously healthy man presented to the emergency department with a 1-day

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A Case of Cytomegalovirus Lung Abscess in a Patient with Community-Acquired Pneumonia

Hsi-Yang Chen¹, Yen-Hsiang Tang¹, Shun-Han Dai¹

This article presents a rare case of lung abscess caused by cytomegalovirus (CMV) in a 76-year-old man initially presenting with symptoms of pneumonia. Despite broad-spectrum antibiotics, his condition worsened, prompting further investigation that revealed high CMV viral loads in the blood and bronchoalveolar lavage fluid, and histopathology confirmed CMV tissue invasion. The patient was treated with antiviral therapy and surgical resection of the abscess, leading to clinical improvement. However, he ultimately succumbed to complications related to gastrointestinal bleeding and respiratory failure. This case highlights the importance of considering CMV as a potential pathogen in lung abscesses, especially in immunocompromised or high-risk patients, and underscores the need for timely diagnosis and targeted antiviral treatment. It also emphasizes that CMV-associated lung abscesses are often underdiagnosed due to their rarity and non-specific presentation, which can delay appropriate management. Early recognition and combined medical and surgical interventions can improve outcomes, but severe complications remain a significant challenge. (*Thorac Med* 2026; 41: 135-142)

Key words: cytomegalovirus, lung abscess

Introduction

Cytomegalovirus (CMV) infection is a well-recognized cause of substantial morbidity and mortality in immunocompromised patients [1]. Severe infections are rare in immunocompetent patients and are often underdiagnosed or diagnosed inadequately [2]. Among the different infection sites, the lung is rarely involved, and the presentation on chest radiographs is non-specific and can vary, including interstitial

infiltrates, focal or diffuse pulmonary opacification, and nodules [3]. Lung abscess is usually caused by polymicrobial infection, which requires a relatively long course of broad-spectrum antibiotics covering both aerobes and anaerobes; CMV is almost never considered as a primary pathogen [4]. This empirical approach to treatment is supported by multiple reports in the literature illustrating the epidemiology and microbiology of lung abscess [4-6]. This may lead to delayed diagnosis of the CMV abscess,

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