

# Pulmonary abscess secondary to oesophageal carcinoma erosion

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## DESCRIPTION

Pulmonary abscesses are relatively rare phenomena.<sup>1</sup> Similar in pathophysiology to other abscesses elsewhere, lung abscesses typically are well-circumscribed collections of inflammatory debris after a period of organisation following an initial infection or another underlying process. However, due to their specific location within the lung parenchyma, they can be difficult to treat and life-threatening. With the advent of antibiotics, pulmonary abscesses have become less common.<sup>1</sup> The most affected patient populations include the elderly, immunocompromised, neurologically impaired and malnourished. Lung abscesses can be further classified as acute (less than 6 weeks of age) or chronic (thereafter).<sup>1</sup>

Clinically, patients with lung abscesses present with non-specific symptoms, including fever, cough, shortness of breath and, to a lesser degree, chest pain.<sup>2</sup> Rarely, haemoptysis can occur if there is bronchial arterial erosion. Pathologically, lung abscesses can be divided into primary and secondary based on differences in aetiology, microbiology and prognostication. Primary lung abscesses are a result of direct infection from bacteria, with the most commonly identified organisms including *Staphylococcus aureus*, *Klebsiella*, *Pseudomonas* and *Proteus* species.<sup>2</sup> A secondary abscess arises from another underlying process such as bronchial obstruction from carcinoma or an inhaled foreign body, haematogeneous spread from endocarditis or extension from adjacent compartments, that is mediastinum, subphrenic spaces or chest wall.<sup>2</sup>

Radiographically, differential diagnosis for cavitary lung lesions include pulmonary tuberculosis, bronchogenic carcinoma, metastasis, inflammatory or granulomatous diseases, and necrotising pneumonias.<sup>3</sup>

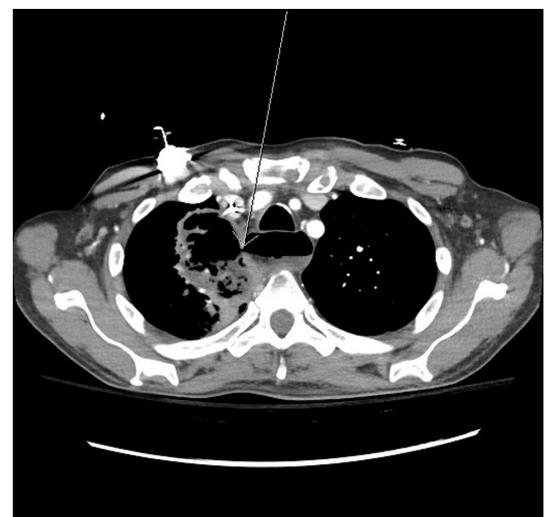
Treatment for lung abscess is long-term antibiotics, initially broad-spectrum. More invasive drainage, either endobronchial or transthoracic, may be necessary if medical therapy is insufficient.<sup>2,3</sup> Surgical excision is still an option, but since the advent of CT, it is less likely to be necessary. Drainage, as with any invasive medical procedure, risks complications such as empyema, bronchopleural fistula, haemorrhage and pneumothorax.<sup>3,4</sup> Abscesses that are greater than 4 cm in diameter are statistically more likely to require an invasive procedure for treatment and have higher associated morbidity and mortality.<sup>4</sup>

We present a case of a secondary pulmonary abscess. An HIV-negative patient with widespread metastatic oesophageal squamous cell carcinoma



**Figure 1** Portable anteroposterior chest radiograph acquired within the emergency department demonstrates a new right lung apex cavitary lesion. Arrow indicates known lytic lesion of widespread metastatic oesophageal cancer.

presented to the emergency room with worsening chest pain, subjective fevers and cough productive of purulent sputum. Initial radiographs demonstrated a new right apical cavitary lesion (figure 1). Chest CT subsequently demonstrated a cavitary



**Figure 2** CT of the chest demonstrates a cavitary mass in the right upper lobe with layering inflammatory debris consistent with a pulmonary abscess. There is evidence of direct oesophageal perforation medial to the cavity, as depicted by the arrow.



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mass in the right apex with layering inflammatory debris consistent with pulmonary abscess. Further evaluation demonstrated a focal defect in the right oesophageal wall (figure 2). The patient was admitted and placed on intravenous antibiotics. Gastroenterology and cardiothoracic surgery consultations provided treatment options to the patient; however, given the patient's

medical comorbidities, the patient elected for comfort measures and passed under hospice care.

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### Learning points

- ▶ Although uncommon, pulmonary abscesses continue to occur and should be included within differential diagnoses for chest symptoms in the appropriate clinical setting.
- ▶ Lung abscesses greater than 4 cm in diameter portends a worse prognosis and usually require more invasive treatment.
- ▶ Primary versus secondary abscess is an important distinction as their aetiologies and prognoses are quite different.

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