Loss of pleural fluid level postpneumonectomy

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DESCRIPTION

A 73-year-old woman presented to a thoracic surgical clinic reporting of increased shortness of breath associated with a cough, productive of copious amounts of yellow stained fluid. She had undergone a right intrapericardial pneumonectomy 4 weeks previously for a T4N2M0 primary lung adenocarcinoma. The clinic chest X-ray demonstrated loss of the fluid level (figure 1) compared with a film taken 3 weeks previously (figure 2). A subsequent bronchoscopy demonstrated a bronchopleural fistula. She was admitted under a thoracic surgical team and underwent thoracotomy and bronchial stump repair using a muscle flap. The thoracotomy was not closed to allow packing of

Figure 1 Chest X-ray showing some areas of basal opacity consistent with a small right-sided pleural effusion. A right pneumonectomy is noted.

Figure 2 Chest X-ray showing a large right-sided opacity with a fluid level consistent with a pleural effusion secondary to a pneumonectomy.

Figure 3 Chest X-ray showing surgical packing of the right thoracic space via a thoracostomy window.

the thoracic cavity with iodine soaked swabs (figure 3). She was discharged home 190 days later following closure of the thoracostomy window after three negative thoracic cavity swabs.

Learning points

- ▶ A pleural effusion is anticipated after pneumonectomy due to fluid filling the thoracic cavity in place of the resected lung.
- ▶ In a patient who has undergone recent pneumonectomy, loss of the pleural fluid level (demonstrated on a plain chest X-ray) should raise the suspicion of a bronchopleural fistula (BPF).
- ▶ BPF often presents with a productive cough due to oral expulsion of pleural fluid—the fistula allows direct communication between the thoracic space and bronchus. Such a cough is often worse if the patient lies on the contralateral side (to the fistula) as this allows further drainage of residual fluid.¹
- ▶ Empyema is usually associated with BPF due to contamination of bacterial flora from the bronchus into the usually aseptic pleural space. As such, treatment involves creation of a thoracostomy window and surgical packing of the thoracic space until pleural swabs are negative.^{1–3}

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Competing interests None declared.

Patient consent Obtained.

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