



Clinical Image

Post-obstructive pulmonary oedema in a patient following tracheal stent implantation

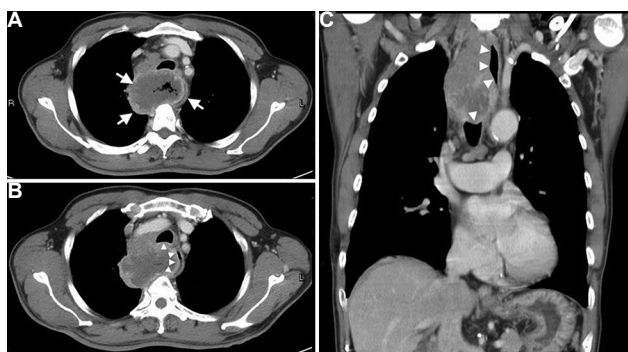


Fig. 1. Contrast-enhanced computed tomography scans (A, arrows) in the transverse plane showing a large, lobulated soft-tissue mass (about 7 cm in diameter) arising from the oesophagus with central necrosis and trapped air bubbles in the mediastinum, which markedly compressed the trachea and invaded the posterior wall of the trachea (B: transverse plane and C: coronal plane; arrowheads).

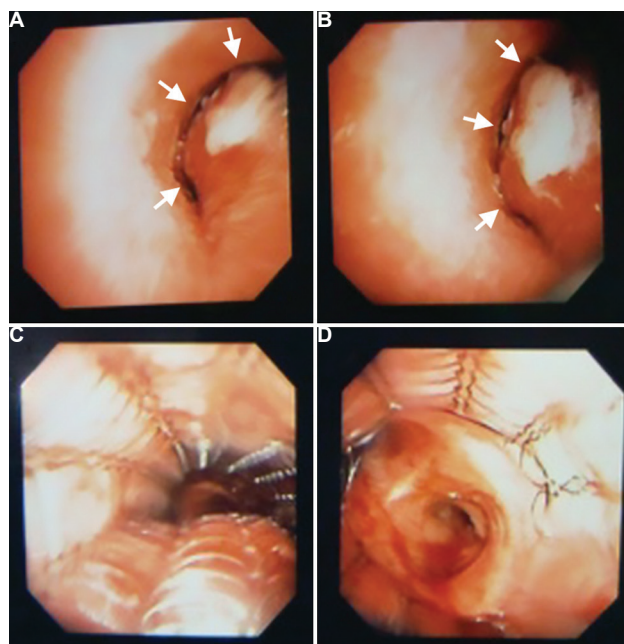


Fig. 2. Bronchoscopy images showing a 1.5 cm long protruding tumour markedly at the posterior membrane of the trachea, which compressed the tracheal lumen (A and B, arrows). A tracheal stent was implanted to regain patency of the tracheal lumen (C and D).

A 75 yr old man[†] presented at the Emergency department of Hualien Armed Forces General Hospital, Taiwan, in December 2011 with shortness of breath and dysphagia. A history of lump sensation in his throat and hoarseness was also noted. His respiratory rate was 26 breaths/min, heart rate 105 beats/min, blood pressure 117/68 mmHg and oxygen saturation was 92 per cent on room air. An electrocardiogram demonstrated sinus tachycardia without ischaemic changes.

A large submucosal mass arising from the oesophagus was observed using computed tomography (Fig. 1A-C) and bronchoscopy (Fig. 2A and B). Tracheal stent implantation was successfully performed (Fig. 2C and D). He developed hypoxia 10 min later accompanied by a persistent cough with pink, foamy sputum and basal crepitation in both lungs. Chest radiography showed diffuse, bilateral infiltrates (Fig. 3A). An echocardiogram showed normal cardiac function (ejection fraction 50%). Permeability lung

[†]Patient's consent obtained to publish clinical information and images.

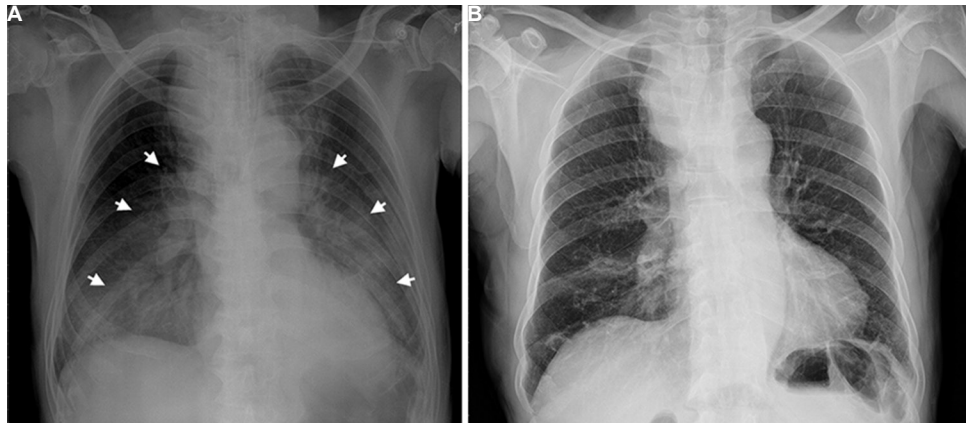


Fig. 3. Chest radiographs showing diffuse, bilateral infiltrates consistent with pulmonary oedema following tracheal stent implantation (A, arrows) and obvious improvement in the lung fields after adequate positive pressure ventilation (B).

oedema was suggested based on the parameters of pulse contour cardiac output monitoring. Bi-level positive airway pressure was provided. His condition improved within 24 h (Fig. 3B). He refused biopsy of the mediastinal tumour, and was discharged seven days later.

Post-obstructive pulmonary oedema (POPE) is a rare form of non-cardiogenic pulmonary oedema primarily associated with upper airway obstruction. Type I POPE is associated with forceful inspiratory effort in acute airway obstruction, while type II POPE occurs after the relief of chronic partial airway obstruction. Since our patient was weak on presentation, there was no forceful inspiratory effort to

cause type I POPE. There was also no clinical evidence of pulmonary oedema. It was reasonable to assume that the patient had type II POPE.

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