

## Images in Thorax

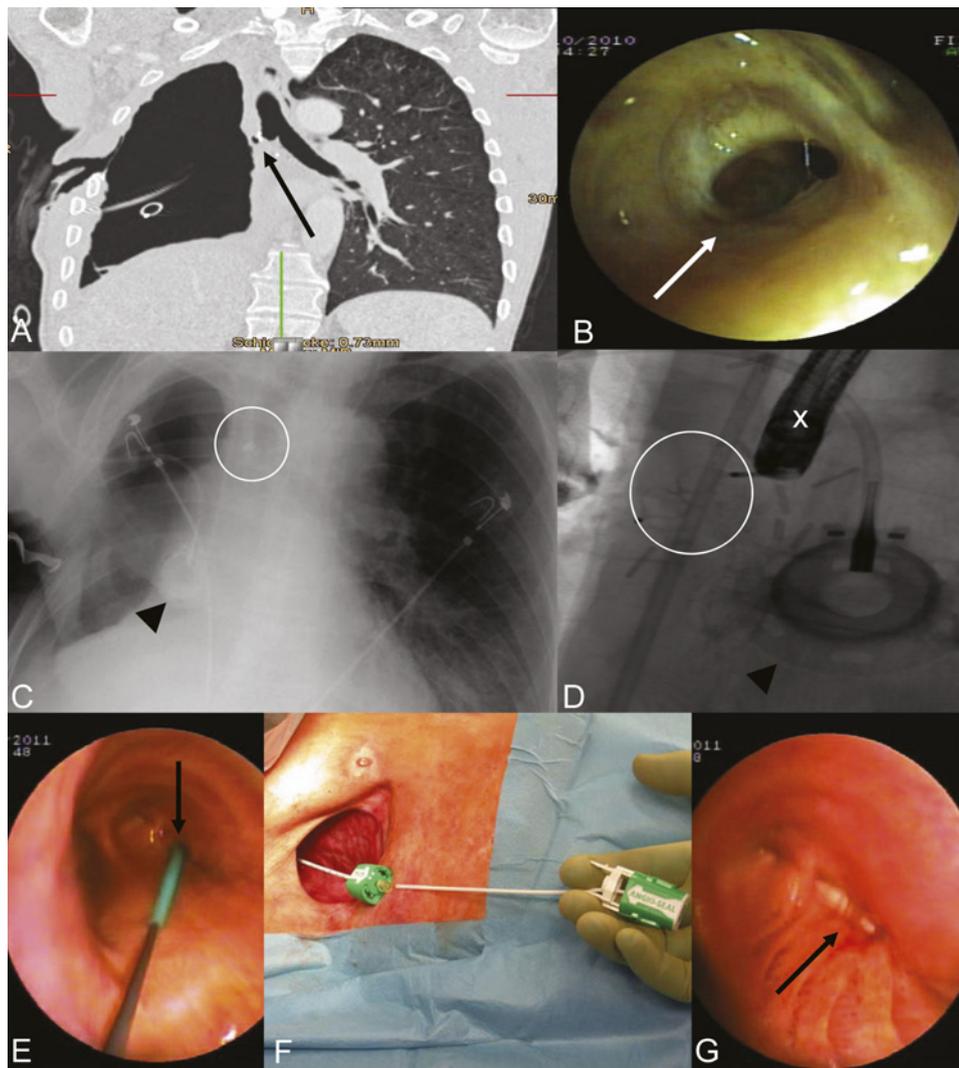
## Cardiovascular armamentarium in a patient with bronchopulmonary fistula



## CASE REPORT

A 55-year-old patient with non-small-cell lung cancer suffered from productive cough due to bronchopulmonary fistula (BPF) following pneumectomy (figure 1A,B). First, we used vascular occlusion coils (Tornado Platin Embolization Coils, Cook, Limerick, Ireland, traditionally used for embolisation of selective

vessel supply to arteriovenous malformations) placed endobronchially in conjunction with fibrin glue application (figure 1C). However, the occluding material was expectorated only 1 week later, probably due to the size of the fistula (10 mm). Second, an Amplatzer vascular plug IV (St. Jude Medical, St. Paul, Minnesota, USA, made of nitinol wires and used for transcatheter embolisation in the peripheral vasculature and occlusion of abnormal vessel communications) was delivered into the fistula (figure 1D). A few weeks later, a bronchography could assure correct device positioning and sealing of the BPF; however, a second small BPF was visualised. Third, an Angio-Seal (St. Jude Medical, St. Paul, Minnesota, USA) vascular closure device (that quickly seals femoral artery punctures following catheter procedures) was used for the new BPF. After insertion of a J wire from the pleural space and snaring it via the bronchoscope (figure 1E), the Angio-Seal was placed and the



**Figure 1** Initial CT scan (A) and bronchoscopy (B) demonstrating bronchopulmonary fistula (BPF) following right pneumectomy before closure. Chest x-ray after placement of vascular coils (C) and the Amplatzer vascular plug (D) in BPF. Angio-Seal over the J wire in the endoscopic view (E) and in view from the pleural side (F). Bronchoscopic view of the Angio-Seal anchor after BPF closure (G). Arrow=BPF, circle=closure device, arrow head=port, x=the bronchoscope.

## Learning points

- ▶ Endobronchial closure of bronchopulmonary fistula is a safe and effective method, at least in selected patients.
- ▶ Combined use of different devices may be necessary.

collagen plug was directed into the fistula and deployed under bronchoscopic guidance (figure 1F,G). After 2 months, the patient remained well, and the fistulae were clinically closed.

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