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Title: An unusual approach to manage a bronchopleural fistula following carinal pneumonectomy

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Body: A 52-year-old lady was referred with a T4N0M0 lung adenocarcinoma in the right main bronchus with protrusion into the trachea. She was an exsmoker with COPD and hypothyroidism. She had a right carinal pneumonectomy with anastomosis of left main bronchus on to the trachea. Post discharge she was readmitted with dyspnoea three weeks later. Her post pneumonectomy space was abnormally enlarged which was managed successfully with intercostal tube drainage. Six weeks later she represented with dyspnoea and sepsis which did not respond to antibiotics. She had a right thoracotomy and bronchoscopy which showed two bronchopleural fistulas (BPF) at the anastomotic site. Unfortunately the BPF persisted. Further surgery was not considered appropriate. She then had a rigid bronchoscopy and a 4cm X 16 mm covered stent deployment to cover the defects. A day later she still had an air leak. Chest X-ray four days later showed that the stent had migrated upwards. She had replacement of the stent with a larger 4cm X 18 mm device. Following day, the air leak stopped completely. Her follow up chest x-ray three months later has been stable with no recurrence of BPF. This case illustrates the management difficulties of BPF complicating high bronchial to tracheal anastomosis with differing airway diameters. Placement of large stent could have jeopardised the integrity of the airway anastomosis. The first stent migrated because it was preferentially sized with respect to the bronchial diameter. When a larger stent was inserted adequate closure ensued without airway anastomotic dehiscence. Although surgical treatment of BPF is gold standard carefully selected patients may benefit from endobronchial closure.