Transsternal approach to the broncho-pleural fistula after right pneumonectomy

Objective: In this video we will demonstrate transsternal approach to the bronchopleural fistula after pneumonectomy.

Case Video Summary: A 59-year-old male with complex past medical history, including right pneumonectomy for invasive aspergillosis 14 years prior, presented with intermittent productive cough, dyspnea on exertion and recent syncopal episodes. Chest CT scan demonstrated calcifications and air-fluid levels within the right post pneumonectomy residual pleural cavity concerning for empyema and bronchial fistula. The total length of the bronchial stump was 3 cm. Patient was brought to the operating room and access to the carina was gained through median sternotomy and pericardiotomy. The right pulmonary artery stump was divided with Endo GIA stapler which provided some better visualization. The right bronchial stump was divided with TA 30 blue staple load. Pedicled soft tissue flap based of the pericardium and thymus was harvested and used for bronchial stump reinforcement. Patient tolerated procedure well without intra- or postoperative complications, was extubated on postoperative day 1 and drains were removed on postoperative day 4. He was discharged home in stable condition on postoperative day 5 and is doing well on postoperative follow up without sings of bronchopleural fistula recurrence.

Conclusions: Transsternal occlusion of bronchial stump is more advisable than tissue flap transposition in patients with chronic pleural empyema with BPF and bronchial stump length over 20 mm due to less morbidity, favorable outcomes and good reproducibility.

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