BRONCHOSTOMY FOR OPERATIVE MANAGEMENT IN A CARINAL PNEUMONECTOMY: A NOVEL TECHNIQUE OF CROSS-FIELD INTUBATION

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Objectives: A carinal pneumonectomy is a challenging procedure. Appropriate surgical approach and respiratory management should be selected carefully for each case especially in left side lesions.

Video description: A 52-year-old female complained about persistent cough for three months. A tumour involving the left main bronchus was revealed in CT. Her respiratory condition acutely deteriorated before fine examination. Emergency bronchoscopy revealed that the tumour occluded the left main bronchus and invaded the trachea. Two expandable metallic stents were inserted in tandem. Pathological diagnosis was adenoid cystic carcinoma. Carinal pneumonectomy was performed one month later. The patient was intubated using a single lumen tube and a clamshell thoracotomy was selected in consideration of dissection of the tumour and pericardium. Through an anterior pericardiectomy, the lower trachea, carina, bilateral main bronchus, and the right pulmonary artery were exposed. Left pulmonary vessels were encircled. After insertion of an endotracheal blocker in the left main bronchus, a bronchostomy was made at the proximal portion of the left lower bronchus. A 5.5-mm ID spiral endotracheal tube (Phycon, Tokyo, Japan) was inserted, and fixed with a purse string suture, and cross-field ventilation was established. The trachea was transected the three rings above the carina, the right main bronchus was transected at the orifice, and the two stumps were sutured to seal the left ventilation system. The trachea and right main bronchus were anastomosed with 4-0 PDS. After division of severe adhesion to the pericardium, a left pneumonectomy was completed by transection of the previously dissected vessels. The operation time was 6 h and 2 min, and the estimated blood loss was 940 g.

Conclusion: Cross-field ventilation via a bronchostomy could maintain a stable anaesthetic condition, and help us to perform a tracheo-bronchial anastomosis smoothly because of the ventilator system being set in the affected side.

Disclosure: No significant relationships.