

Publication

Airway complications after lung transplantation : risk factors, prevention and outcome

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PURPOSE: Anastomotic complications following lung transplantation (LuTx) have been described in up to 15% of patients. Challenging to treat, they are associated with high morbidity and a mortality rate of 2-5%. The aim of this study was to analyze the incidence of complications in a consecutive series of bronchial anastomosis after LuTx at our center and to delineate the potential risk factors. **METHODS:** Between 1992 and 2007, 441 bronchial anastomoses were performed in 235 patients. Indications for transplantation were cystic fibrosis (35.7%) emphysema (28.1%) pulmonary fibrosis (12.8%) and pulmonary hypertension (7.7%). There were 206 sequential bilateral and 28 single transplants including lobar engraftments in 20 cases. The donor bronchus was shortened to the plane of the lobar carina including the medial wall of the intermediate bronchus. Peribronchial tissue was left untouched. Anastomosis was carried out using a continuous absorbable running suture (PDS 4/0) at the membranous and interrupted sutures at the cartilaginous part. Six elective surveillance bronchoscopies were done monthly during the first half-year post-LuTx, with detailed assessment of the pre- and post-anastomotic airways. **RESULTS:** One-year survival since 2000 was 90.5%. In all 441 anastomoses performed, no significant dehiscence was observed. In one patient, a small fistula was detected and closed surgically on postoperative day five. Fungal membranes were found in 50% of the anastomoses at 1 month and in 14% at 6 months. Discrete narrowing of the anastomotic lumen without need for intervention was found in 4.9% of patients at 1 month and in 2.4% at 6 months. Age, cytomegalovirus status, induction therapy, immunosuppressive regimen, ischemic time, and ventilation time had no influence on bronchial healing. **CONCLUSIONS:** Clinically relevant bronchial anastomotic complications after LuTx can be avoided by use of a simple standardized surgical technique. Aggressive antibiotic and antifungal therapy might play an important supportive role.

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