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Title: Incidence and management of anastomotic complications after bronchial resection: A retrospective study

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Body: Background: Bronchial resection and re-implantation in the surgical management of lung cancer are intended to spare lung parenchyma, with curative intent. We studied the incidence and management ofanastomotic complications after such procedures. Methods: We retrospectively reviewed charts of patients referred to our center for lung tumors, who underwent bronchial resection and re-implantation from 1991 to 2011, Results: A total of 108 patients were included. Sixty eight percent were male, and mean age was 58 years. Sleeve lobectomies were performed in 100 patients, bronchial resections without lung parenchymal resection in 8 patients. Squamous cell carcinoma represented 46.3%, carcinoid tumors 22.2%, and adenocarcinomas 18.5%. Mean time between surgery and the first bronchoscopic examination was 4.47 days, with anastomotic abnormalities detected in 20.4%. Twenty three patients underwent therapeutic bronchoscopy for malacic or fibrotic bronchial stenoses in 9 cases, for dehiscences in 7, for obstructive granulomas in 3, and for bronchopleural fistulas in 3. Endoscopic treatment consisted in stent placement in 5 cases, mechanical dilations in 3, laser treatment for one case of bronchomalacia, and resection of granulomas in 3. No risk factors were identified as predisposing for bronchial complications. There was a trend towards lower 1-year survival in patients with bronchial complications compared to those without (71.9% vs. 83.4%, p=0.114). Conclusion: Bronchial resection and re-implantation is a surgical procedure associated with an anastomotic complication rate of 21%. Regular endoscopic surveillance is advised in order to detect and treat early complications.