

Lung cancer resection following bronchoscopic lung volume reduction

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BACKGROUND: Bronchoscopic lung volume reduction (BLVR) is a minimally invasive treatment for emphysema. Lung cancer may be associated with emphysema due to common risk factors. Thus, a growing number of patients undergoing BLVR may develop lung cancer. Herein, we aimed to evaluate the feasibility of lung cancer resection in patients undergoing previous BLVR.

METHODS: The clinical data of patients undergoing BLVR followed by lung cancer resection were retrospectively reviewed. For each patient, surgical and oncological outcomes were recorded to define the value and the safety of this strategy.

RESULTS: Eight patients were included in our series. In all cases but one, the emphysema was localized within upper lobes; the tumor was detected during routine follow-up following BLVR and it did not involve the treated lobe. The comparison of pre and post-BLVR data showed a significant improvement in FEV1 (29.7±4.9 vs. 33.7±6.7, p=0.01); in FVC (28.5±6.6 vs. 32.4±6.1, p=0.01); in DLCO (31.5±4.9 vs. 38.7±5.7, p=0.02); in 6MWT (237±14 metres vs. 271±15 metres, p=0.01) and a reduction in RV (198±11 vs. 143±9.8, p=0.01). The surgical resection of lung cancer included wedge resection (n=6); lobectomy (n=1); and segmentectomy (n=1). No major complications were observed and the comparison of pre and postoperative data showed no significant reduction in FEV1% (33.7±6.7 vs. 31.5±5.3; p=0.15), and in DLCO (38.7±5.7 vs. 36.1±5.4; p=0.15). The median survival was 35 months and no cancer relapses were observed.

CONCLUSIONS: Surgical resection seemed to be a safe procedure following BLVR. The improved lung function obtained with BLVR allowed previously nonsurgical candidates undergoing lung resection.