

P139 ATELECTASIS FOLLOWING BRONCHOSCOPIC LUNG VOLUME REDUCTION (BLVR) IS ASSOCIATED WITH IMPROVED SURVIVAL IN COPD

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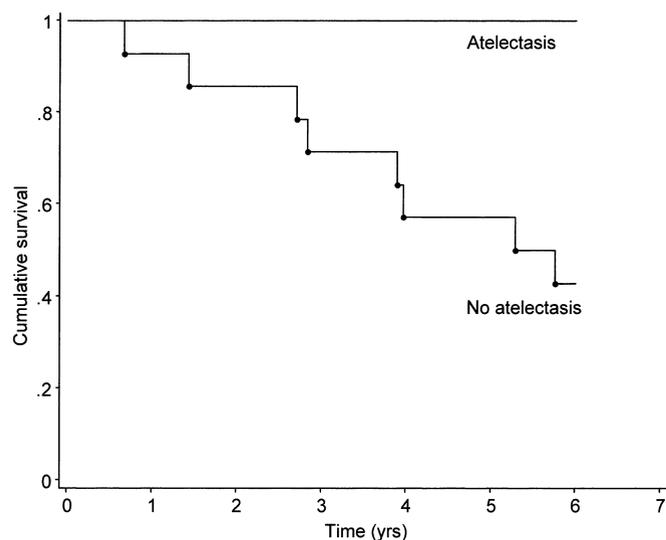
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Background A range of bronchoscopic therapies are being developed to reduce lung volumes in COPD patients, either in order to avoid the morbidity and mortality associated with lung volume reduction surgery, or to extend therapy to patient groups in whom LVRS is not appropriate because of disease pattern or severity.

Aims Bronchoscopic lung volume reduction (BLVR), using endobronchial valves to target unilateral lobar occlusion in patients with heterogeneous emphysema has been shown to improve lung function and exercise capacity in patients with emphysema. Benefit was most pronounced in, though not confined to, patients where lobar atelectasis occurred. Little data exists on the long-term outcome following BLVR.

Study population 19 patients (16 males) FEV₁ 28.4 (11.9) underwent BLVR between July 2002 and February 2004. Radiological atelectasis was observed in five patients. Survival data to February 2010 was available for all patients. The age dyspnoea obstruction (ADO) score was used to calculate predicted mortality.

Results None of the patients in whom atelectasis occurred died during follow up whereas eight out of 14 in the non-atelectasis group died (χ^2 p=0.026) (Abstract P139 Figure 1). There was no significant difference between the groups at baseline in lung function, quality of life, exacerbation rate, exercise capacity (shuttle walk test or cycle ergometry) or CT appearances, although BMI was significantly higher in the atelectasis group 21.6(2.9) vs 28.4 (2.9) kg. m⁻² (p<0.001). Pre treatment CT appearances did not differ significantly between the atelectasis and non-atelectasis groups in terms of degree of emphysema at either the upper or lower parts of the lungs or in heterogeneity (slope) in either the treated or non-treated lung prior to treatment. ADO score, predicted 3 year mortality was 31.1 (10.0)% in the non-atelectasis group and 32.2 (15.1)% in the atelectasis group (p=0.8). Four of the eight deaths occurred within 3 years of the procedure, representing a 29% mortality rate for the non-atelectasis group (ie, close to that predicted).



Abstract P139 Figure 1

Conclusions These data suggest that atelectasis following BLVR is associated with a survival benefit which is not explained by differences at baseline.

REFERENCE

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P140 THORACOSCOPIC BULLECTOMY FOR DYSPNOEA IN EMPHYSEMA: DEFINING NEW BOUNDARIES

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Objectives There exists only limited historical guidance on patient selection for giant bullectomy in emphysema which is now 20-years-old (1). Operative mortality was reported at about 10%, and patients with FEV₁<50% predicted were excluded. Developments in video assisted thoracic surgery (VATS) and experience with lung volume reduction surgery have reduced our selection threshold. We have reviewed our results in the last decade and their implications for patient selection.

Methods Between June 1997 and November 2009, 55 patients (45 males:10 females; median age 61 years (range 39–76 years)) with significant dyspnoea associated with giant emphysematous bullae underwent surgery. Their median preoperative FEV₁ was 31% predicted (range 9–93%). Twenty nine patients had FEV₁<50%pred and fifteen <25%pred. Eight patients were in type I respiratory failure three patients had alpha-1-antitrypsin deficiency. All were cigarette smokers and four had significant cannabis use. In all patients there was evidence of hyperinflation and a bulla occupying >30% of the hemithorax. All operations were performed by stapled VATS bullectomy and in the high risk patients six operations were performed under sedation with spontaneous ventilation and two using intraoperative extracorporeal membrane oxygenation (ECMO).

Results Median hospital stay was 9 days (range 3–64 days). Prolonged air leak (lasting over 48 h) was observed in 21 patients (38%). Three patients (6%) required postoperative ventilation. 30-day mortality was 3.6% (two patients). One-year survival was 94.5% (52 patients). Symptomatic improvement in dyspnoea was reported in 73% patients.

Conclusions VATS bullectomy should be considered for symptom relief even in patients with severe airflow obstruction and borderline respiratory failure.

REFERENCE

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P141 LUNG VOLUME REDUCTION SURGERY—THE FIRST 200 OPERATIONS IN A UK CENTRE: THE BENEFITS OF A MULTIDISCIPLINARY STRATEGY AND MINIMALLY INVASIVE APPROACH

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Objective Despite the supportive results of the randomised, controlled NETT trial, lung volume reduction surgery (LVRS) is still