Biologic lung volume reduction therapy for advanced homogeneous emphysema.

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Abstract:

This report summarises phase 2 trial results of biologic lung volume reduction (BioLVR) for treatment of advanced homogeneous emphysema. BioLVR therapy was administered bronchoscopically to 25 patients with homogeneous emphysema in an open-labelled study. Eight patients received low dose (LD) treatment with 10 mL per site at eight subsegments; 17 received high dose (HD) treatment with 20 mL per site at eight subsegments. Safety was assessed in terms of medical complications during 6-month follow-up. Efficacy was assessed in terms of change from baseline in gas trapping, spirometry, diffusing capacity, exercise capacity, dyspnoea and health-related quality of life. There were no deaths or serious medical complications during the study. A statistically significant reduction in gas trapping was observed at 3-month follow-up among HD patients, but not LD patients. At 6 months, changes from baseline in forced expiratory volume in 1 s (-8.0+/-13.93% versus +13.8+/-20.26%), forced vital capacity (-3.9+/-9.41% versus +9.0+/-13.01%), residual volume/total lung capacity ratio (-1.4+/-13.82% versus -5.4+/-12.14%), dyspnoea scores (-0.4+/-1.27 versus -0.8+/-0.73 units) and St George's Respiratory Questionnaire total domain scores (-4.9+/-8.3 U versus -12.2+/-12.38 units) were better with HD than with LD therapy. BioLVR therapy with 20 mL per site at eight subsegmental sites may be a safe and effective therapy in patients with advanced homogeneous emphysema.