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Shah PL, Zoumot Z, Singh S, Bicknell SR, Ross ET, Quiring J, Hopkinson NS, Kemp SV for the RESET trial Study Group. endobronchial coils for the treatment of severe emphysema with hyperinflation (RESET): a randomised controlled trial. Lancet Respiratory Medicine. 2013;1(3):233-40. [Abstract](#)

Despite advances in pharmacologic therapies, chronic obstructive pulmonary disease (COPD) remains a challenging respiratory disease. It is currently the third leading cause of death. Prior invasive treatment strategies such as endobronchial valves and surgical lung volume reduction have had limited success. Surgical lung volume reduction remains an option in patients with heterogeneous upper lobe predominant emphysema, poor exercise tolerance and FEV1 < 35% (1). The placement of endobronchial coils has been studied in smaller cohort studies and shown to reduce hyperinflation. This study is a larger randomized control trial looking at the efficacy and safety of endobronchial lung volume reduction coils (LRVC).

The study was performed between January 2010 and October 2011 among 3 centers in the United Kingdom. Inclusion criteria included patients with FEV1 < 45%. A total of 47 patients were included in the study. Twenty-four patients were randomized to receive standard medical therapy for COPD and 23 patients were randomized to LRVC. The characteristics of the patients were similar; however there were more men in the medical treatment arm, while the LRVC arm had patients with more severe baseline disease.

The procedure was not blinded. Patients undergoing LRVC received a total of 2 sessions 14 days apart. Procedures were done bronchoscopically under moderate conscious sedation or anesthesia. The procedure entailed deploying an endobronchial coil under fluoroscopic guidance 35mm away from pleural surface. Outcomes were measured at 90 days. The primary outcome was an improvement in quality of life as measured by The St. George's Respiratory Questionnaire. Secondary outcomes looked at response of FEV1, residual volume and 6 minute walk test.

In this study the results showed an improvement in quality of life, as well and an increase in 6 minute walk test by 51 meters within the LRVC group when compared to the medical therapy group. There were also improvements in FEV1 and a reduction in residual volume with in the LRVC arm. Side effects within the LRVC included 2 pneumothorax episodes but no fatalities.

Findings from this study look promising but there were several imitations. The study was funded by PneumRx which makes the coils being studied. The lack of blinding, no reported smoking status, and no standardized medications within the medical treatment arm further limit the study. Additional larger trials with long term follow up are needed to further validate this new treatment modality.

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Reference

1. Meyers BF, Patterson GA. Chronic obstructive pulmonary disease: bullectomy, lung volume reduction surgery, and transplantation for patients with chronic obstructive pulmonary disease. *Thorax*. 2003;58:634-8. doi:10.1136/thorax.58.7.634