A randomised controlled study of Bronchoscopic Lung Volume Reduction with endobronchial valves for patients with Heterogeneous emphysema and Intact interlobar Fissures: the BeLieVeR-HIFi study

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Declared competing interests of authors: Pallav L Shah has received consultancy fees from PneumRx and Olympus and organises a bronchoscopy course, which is sponsored by ERBE, Cook Medical, Superdimension, Boston Scientific, Aquilant, Broncus, Pulmonx, Olympus and PneumRx. The valves used were provided by the manufacturer, Pulmonx, free of charge. Pulmonx had no input into trial design, data analysis or data presentation.

Published September 2015
DOI: 10.3310/eme02050

Plain English summary

The BeLieVeR-HIFi study

Efficacy and Mechanism Evaluation 2015; Vol. 2: No. 5
DOI: 10.3310/eme02050

NIHR Journals Library www.journalslibrary.nihr.ac.uk

Plain English summary

Chronic obstructive pulmonary disease is a lung condition usually caused by smoking. It is a mixture of bronchitis (airway damage) and emphysema (damage to the lung tissue itself). In emphysema, the lungs become baggy and full of holes, which makes it impossible to breathe out fully. This is called 'gas trapping'. A fibreoptic camera (bronchoscope) can be used to place valves into the airways of the lung. The valves stop air entering the most damaged part of the lung, which makes more space for the remaining healthier lung to function.

Unfortunately, in many patients, lung destruction breaks down the barriers (fissures) between the lobes of the lung. This allows air to get round behind the valves so the treatment does not work. The valves are expensive, so to get the best value from the treatment we need to be able to pick people who will benefit accurately.

We carefully selected 50 patients with severe emphysema whose fissures looked to be intact on computerised tomography scan. Half had valves placed and half did not. Patients and investigators did not know which group they were in. After 3 months, lung function and exercise capacity had improved significantly in the treated group but not in the control group. Two people in the treatment group died before 3 months and one of the control patients was too unwell for further measurements to be made.

This suggests that valve treatment is effective in carefully selected patients with emphysema.

Efficacy and Mechanism Evaluation

ISSN 2050-4365 (Print)

ISSN 2050-4373 (Online)

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This report

The research reported in this issue of the journal was funded by the EME programme as project number 10/90/10. The contractual start date was in February 2012. The final report began editorial review in March 2014 and was accepted for publication in March 2015. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The EME editors and production house have tried to ensure the accuracy of the authors' report and would like to thank the reviewers for their constructive comments on the final report document. However, they do not accept liability for damages or losses arising from material published in this report.

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