Endoscopic lung volume reduction

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AIMS: To discuss various options for hyper-inflated patients and different scenarios based on case examples.

TARGET AUDIENCE: Clinician, Fellow, General practitioner, Junior member, Pulmonologist, Radiologist, Resident, Thoracic endoscopist, Thoracic surgeon, Trainee

AIMS

- Indications for the different technologies
- Patient selection
- Limitations
- Complications

SUMMARY

As well as lung volume reduction surgery, different minimally invasive endoscopic techniques are available to achieve lung volume reduction in patients with severe emphysema and significant hyperinflation. Lung function parameters and comorbidities of the patient, as well as the extent and distribution of the emphysema are factors to be considered when choosing the patient and the intervention. Endoscopic bronchial valve placement with complete occlusion of one lobe in patients with heterogeneous emphysema is the preferred technique because of its reversibility. The presence of high interlobar collateral ventilation will hinder successful treatment; therefore, endoscopic coil placement, polymeric lung volume reduction, or bronchoscopic thermal vapor ablation as well as lung volume reduction surgery can be used for treating patients with incomplete fissures. The effect of endoscopic lung volume reduction in patients with a homogeneous distribution of emphysema is still unclear and this subgroup should be treated only in clinical trials. Precise patient selection is necessary for interventions and to improve the outcome and reduce the risk and possible complications. Therefore, the patients should be discussed in a multidisciplinary approach prior to determining the most appropriate treatment for lung volume reduction.

REFERENCES


FACULTY DISCLOSURE

Prof. Dr Felix J. F. Herth takes part in adboard activities, as well as receives lecture fees from Pulmonx, Olympus, Uptake and BTG.
EVALUATION

1. Which test should be performed early in the evaluation for an ELVR
   a. MRI
   b. Perfusionscan
   c. Bodyplethysmographie
   d. bronchoscopy
   e. compliance measurement

2. Who should not be part of an ELVR MDT
   a. thoracic surgeon
   b. interventional pulmonologist
   c. pathologist
   d. radiologist
   e. respiratory physician

3. Which statement is wrong. ELVR with valves is possible in
   a. only in upper lobe predominant disease
   b. in patients with pulmonary hypertension
   c. outside of clinical trials
   d. in Chartis negative patients
   e. in fissure complete emphysema types