

# Long-term follow-up of intra lobar bullae after endobronchial valve treatment for emphysema

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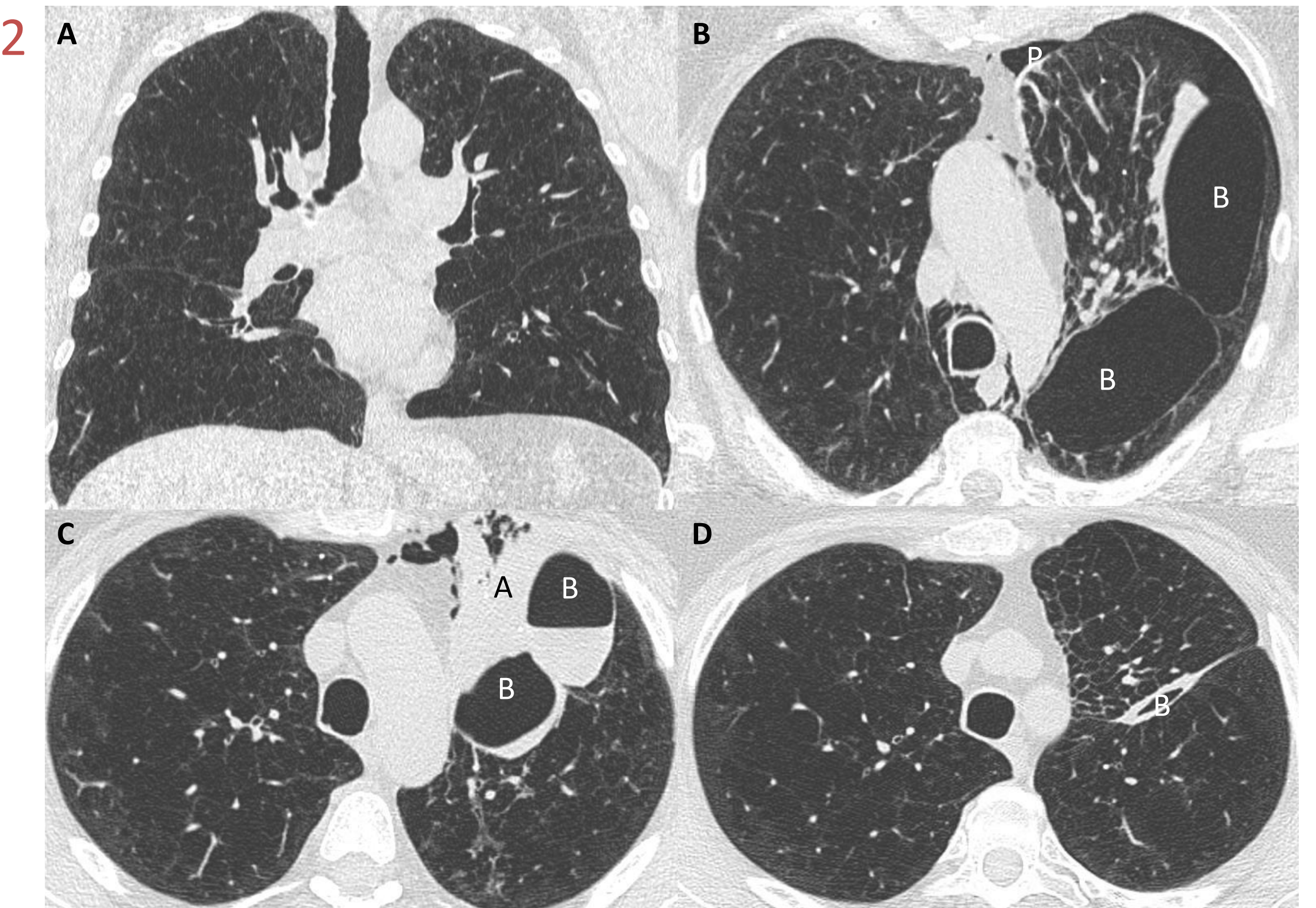
## Introduction

- ELVR improves lung function, exercise capacity and quality of life in patients with severe emphysema<sup>1</sup>.
- However, movements of the thoracic structures after EBV are unpredictable.

## Case reports

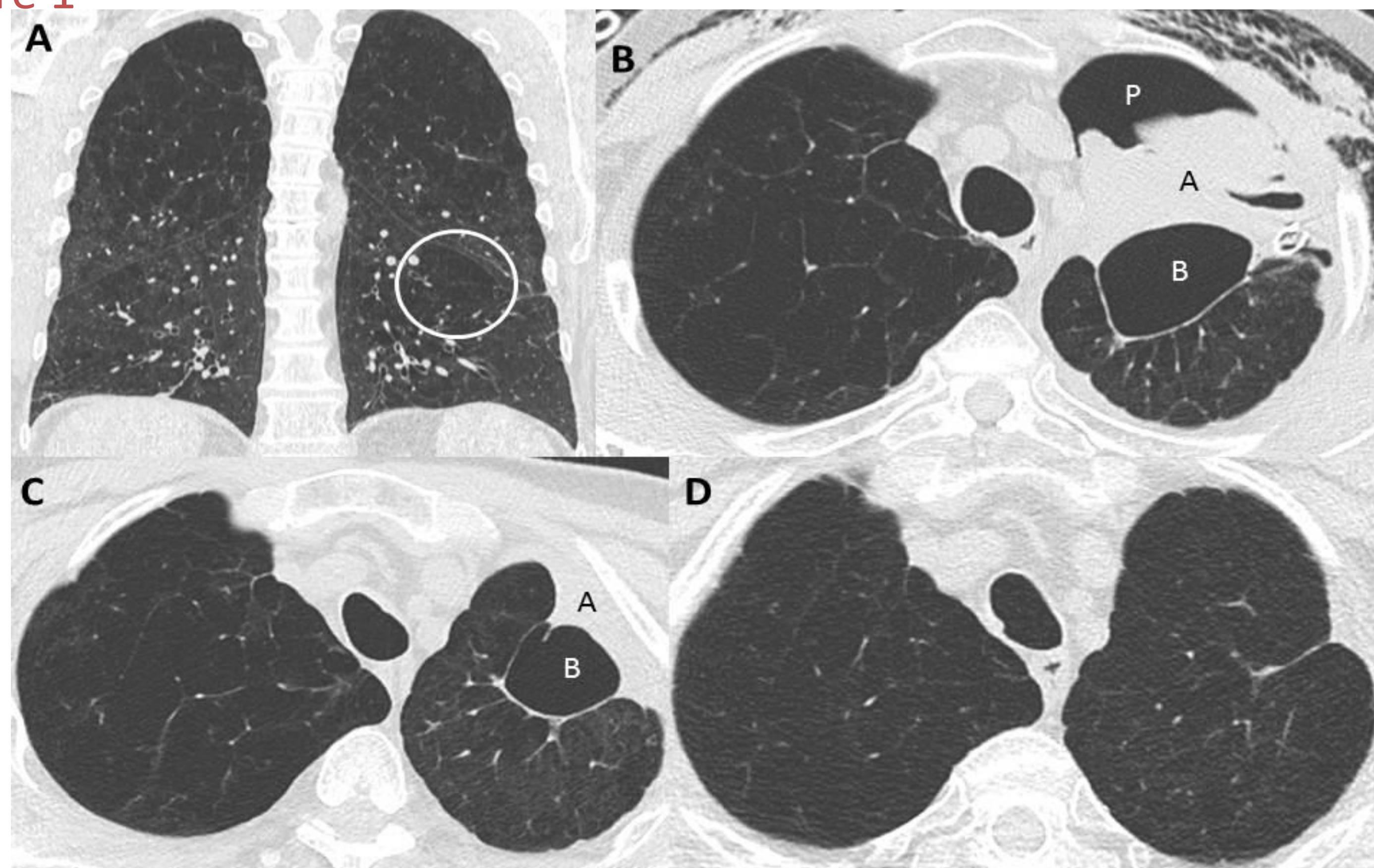
- 7 patients
- Absence of paraseptal emphysema, severe scarring, fibrotic lesions and significant pleural adhesions before EBV insertion (Fig 1A and 2A).
- In our series, septate and isolated bullae in their left lung within 48 hours after EBV insertion in their left upper lobe (Fig 1B and 2B).
- A complete atelectasis was observed early (within the first day) in all patients complicated by a pneumothorax within 2 days after EBV insertion.

Figure 2



- The outcomes of 3 patients were uneventful with complete resolution of the bullae (Fig. 1C and 1D).
- In the 3 other patients, an air-liquid level occurred within 2 days after EBV placement and was associated with a bacterial infection (Fig. 2C and 2D).
- Mechanism is unknown (rupture of parenchymal septa in the lung parenchyma vs two pneumothorax among which one is septated).

Figure 1



## Conclusions

Parenchymal or interlobar bulla is a complication after endobronchial valves insertion for endoscopic lung volume reduction in patients with severe emphysema.

Outcomes seem to be associated with a more limited improvement of lung function and exercise capacity.

A conservative attitude should be taken as spontaneous resolution was described

### Figures legend

A: atelectasis, B: bullae, P: pneumothorax

### Conflicts of interest

OT, BB, KC, OM and DL have no conflicts of interest in this work. DJS is a physician-advisor and investigator for Pulmonx. PLS received lecture fees and is a consultant of Pulmonx.

### References

1. Klooster K et al. Endobronchial valves for emphysema without interlobar collateral ventilation. N Engl J Med. 2015;373:2325–2335.