

# Rapid-growth pneumatocele mimics massive pneumothorax in a HIV-positive patient

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We present a rare fast-growing giant pneumatocele in a patient presenting with suspected pneumocystis pneumonia (PCP) infection and bilateral pneumothoraces as a primary manifestation of AIDS (HIV viral loading test: 628 000 copies/ml). Tube thoracostomies were performed and complicated with enduring air leakage and subcutaneous emphysema. Follow-up chest x-rays showed an enlarging radiolucency over the left upper lung field that was interpreted as massive pneumothorax with passive lung atelectasis. Positive ventilation was also applied due to disease progression (The CD4<sup>+</sup> T-lymphocyte count was 18/cu mm). Repeated chest CT scans disclosed a newly formed giant bullous-liked lesion in the left upper lung field (figure 1). Video-assisted thoracoscopic surgery for unroofing the cystic lesion (pneumatocele) and pleurodesis successfully allowed the patient to wean from the ventilator and be discharged uneventfully (figure 2).

## DISCUSSION

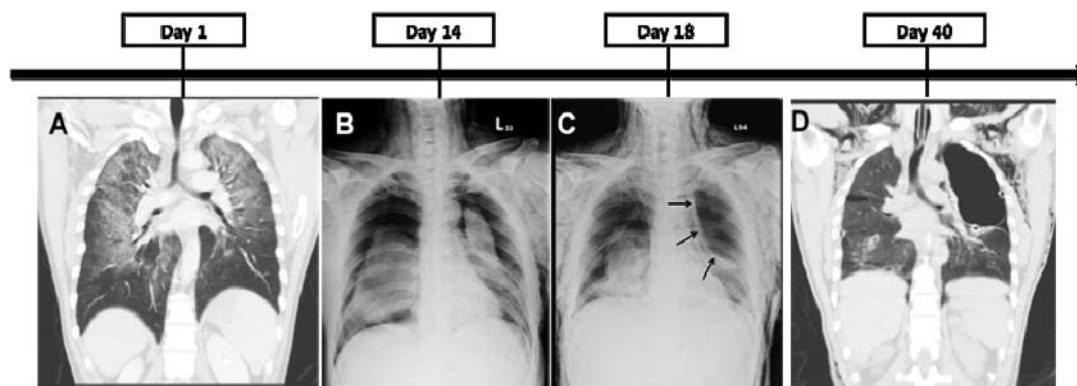
HIV with PCP infection complicated with necrotising alveolitis in the subpleural pulmonary

## Learning points

- ▶ A fast-growing giant pneumatocele can develop in the HIV-positive patient with suspected PCP infection complicated with pneumothorax and compromised pulmonary reserve. CT scans might be helpful for differential diagnosis.
- ▶ Surgical intervention by video-assisted thoracoscopic surgery for unroofing the pneumatocele and pleurodesis might be an effective treatment to resolve the respiratory compromise and pneumothorax.

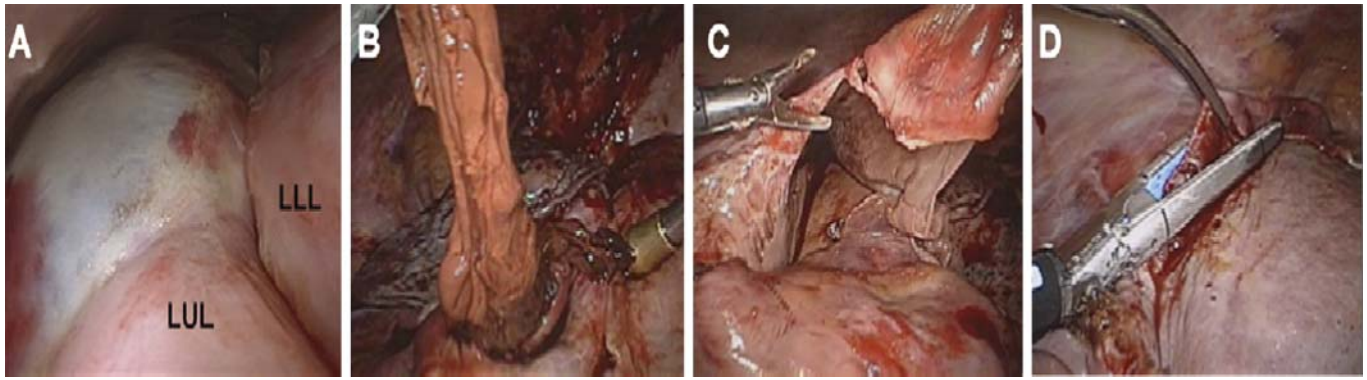
parenchyma that resulted in pneumothorax and pneumatocele have been well reported.<sup>1 2</sup> Nonetheless, a rapid-growth giant pneumatocele could be misinterpreted as massive pneumothorax without expectation.

**Contributors** M-SH was involved in collecting clinical information and drafting the manuscript. C-CK analysed the radiological studies.



**Figure 1** (A) Chest CT scan on Day 1: showed symmetric bilateral perihilar ground-glass opacity with predominant upper and middle lung zone involvement; (B) chest radiograph on Day 14 showed spontaneous bilateral pneumothoraces; (C) chest radiograph on Day 18 depicted enlarging radiolucent area in bilateral lung fields with further collapse of both lungs and extension of subcutaneous emphysema, progressive pneumothorax with passive lung atelectasis; arrows indicated the new giant pneumatocele already formed; (D) repeated chest CT disclosed a giant cystic lesion in the left lung. This figure is only reproduced in colour in the online version.

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**Figure 2** Intraoperative findings: (A) a giant bullous lesion (pneumatocele) compromised the residual pulmonary parenchyma; (B) necrotic debris inside the pneumatocele which revealed only coagulase negative staphylococcus species infection; (C) unroofing the pneumatocele by video-assisted thoracoscopic surgery; (D) trimming of the margin of pneumatocele with healthy parenchyma to minimise the air leakage. This figure is only reproduced in colour in the online version.

WW-W carried out the patient care clinically and helped to draft the manuscript. C-SH provided the operative images and wrote the manuscript.

**Competing interests** None.

**Patient consent** Obtained.

**Provenance and peer review** Not commissioned; externally peer reviewed.

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