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

Min-Shiau Hsieh,1,2 Chun-Ku Chen,3 Wing-Wai Wong,4,5 Chien-Sheng Huang1,6

We present a rare fast-growing giant pneumatocele in a patient presenting with suspected pneumatic cystic 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+ T-lymphocyte count was 18/cu mm). Repeated chest CT scans disclosed a newly formed giant bullous-like lesion in the left upper lung field (figure 1). Video-assisted thoracoscopic surgery for unroofing the 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 parenchyma that resulted in pneumothorax and pneumatocele have been well reported. Nonetheless, a rapid-growth giant pneumatocele could be misinterpreted as massive pneumothorax without expectation.

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.

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.
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.

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

Min-Shiau Hsieh, Chun-Ku Chen, Wing-Wai Wong and Chien-Sheng Huang

Thorax 2013 68: 307-308 originally published online June 26, 2012
doi: 10.1136/thoraxjnl-2012-201990

Updated information and services can be found at:
http://thorax.bmj.com/content/68/3/307

These include:

References
This article cites 2 articles, 1 of which you can access for free at:
http://thorax.bmj.com/content/68/3/307#BIBL

Email alerting service
Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

Topic Collections
Articles on similar topics can be found in the following collections

Thorax Images in Thorax (149)
Drugs: infectious diseases (968)
HIV/AIDS (194)
Radiology (diagnostics) (812)
Screening (oncology) (407)
Journalology (123)
Lung cancer (oncology) (670)
Lung cancer (respiratory medicine) (670)
Patients (155)
Pneumonia (infectious disease) (579)
TB and other respiratory infections (1273)
Fungal lung diseases (51)
Pneumonia (respiratory medicine) (562)
Lung neoplasms (608)

Notes

To request permissions go to:
http://group.bmj.com/group/rights-licensing/permissions

To order reprints go to:
http://journals.bmj.com/cgi/reprintform

To subscribe to BMJ go to:
http://group.bmj.com/subscribe/