

## Images in clinical medicine



### Empyema thoracis in a patient with *Enterococcus faecium* bacteremia



Chee Yik Chang<sup>1,&</sup>

<sup>1</sup>Medical Department, Hospital Sultanah Aminah, Jalan Persiaran Abu Bakar Sultan, 80100 Johor Bahru, Johor, Malaysia

<sup>&</sup>Corresponding author: Chee Yik Chang, Medical Department, Hospital Sultanah Aminah, Jalan Persiaran Abu Bakar Sultan, 80100 Johor Bahru, Johor, Malaysia

Received: 16 May 2020 - Accepted: 27 May 2020 - Published: 28 May 2020

Domain: Infectious disease

Key words: *Enterococcus faecium*, empyema, vancomycin

Images in clinical medicine | Volume 3, Article 30, 28 May 2020 | 10.11604/pamj-cm.2020.3.30.23568

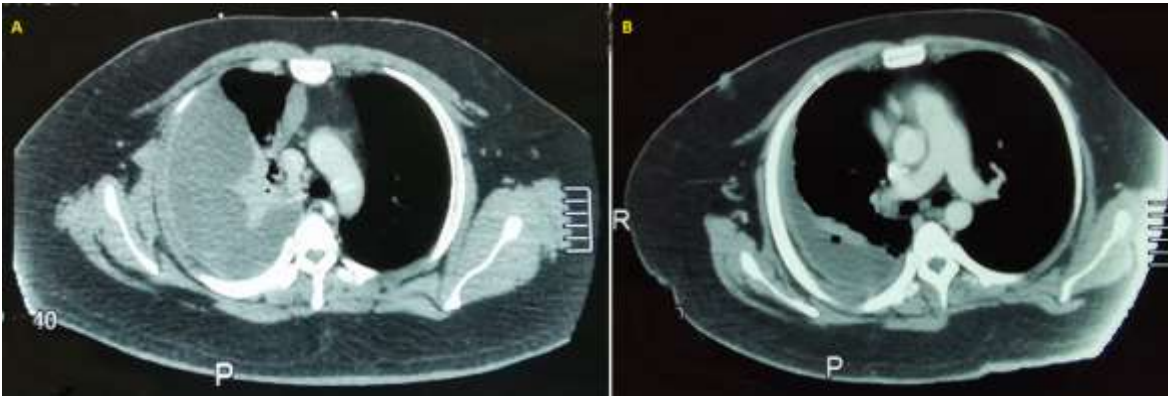
Available online at: <https://www.clinical-medicine.panafrican-med-journal.com/content/article/3/30/full>

© Chee Yik Chang et al PAMJ - Clinical Medicine (ISSN: 2707-2797). This is an Open Access article distributed under the terms of the Creative Commons Attribution International 4.0 License (<https://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

#### Images in medicine

A 30-year-old male with a background of diabetes mellitus, hypertension, and obesity presented with a 2-week history of cough, associated with fever and breathlessness for one day. Auscultation of the lung revealed markedly reduced breath sound of the right lung. Contrast-enhanced CT of the thorax showed a gross right pleural effusion with associated atelectasis of the entire right lung (A). A pleural pigtail catheter was inserted in which a copious amount of purulent material was drained. Transthoracic echocardiography revealed normal cardiac contractility with the absence of vegetation. His blood culture yielded *Enterococcus faecium*, only susceptible to vancomycin, while cultures of the pleural fluid and sputum were negative. As a result, he was treated with intravenous vancomycin, with dosage adjustment made

based on the therapeutic drug monitoring (aim for trough level = 15-20mg/L). His condition improved with intravenous vancomycin, which was given for a total duration of 6 weeks. Repeated thoracic CT at a one-month interval showed improving right pleural effusion (B). He was also referred to the cardiothoracic surgeon for decortication because of the residual empyema. *E. faecium* is a Gram-positive, commensal bacterium inhabiting the gastrointestinal tracts of humans and other mammals. *E. faecium* is a rare cause of empyema. This case illustrates the development of *E. faecium* empyema in a young patient with multiple co-morbid conditions. Pleural space infection caused by *E. faecium* requires pleural drainage and intravenous vancomycin for treatment.



**Figure 1:** (A) CT of the thorax shows a gross right pleural effusion; (B) CT of the thorax shows residual right pleural effusion, predominantly at the posterior aspect