



## Radiological Quiz

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### Case History

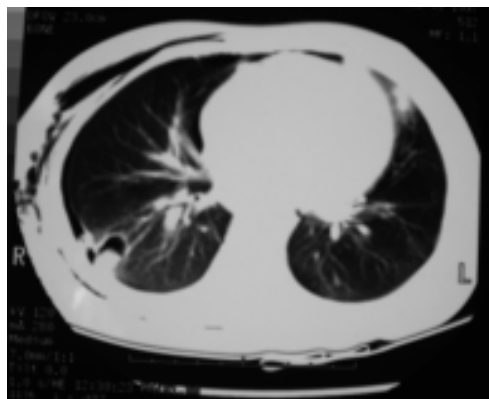
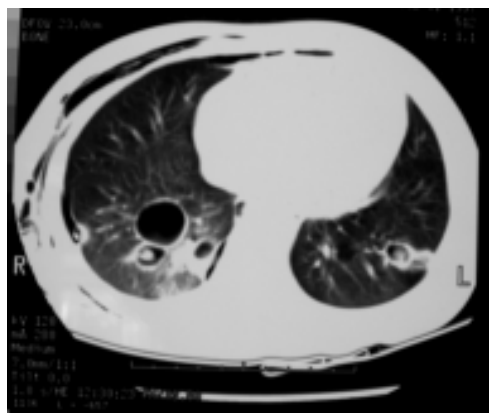
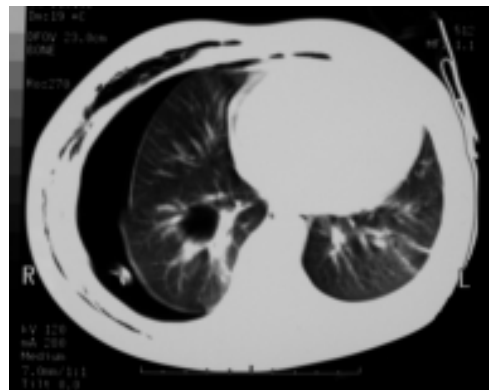
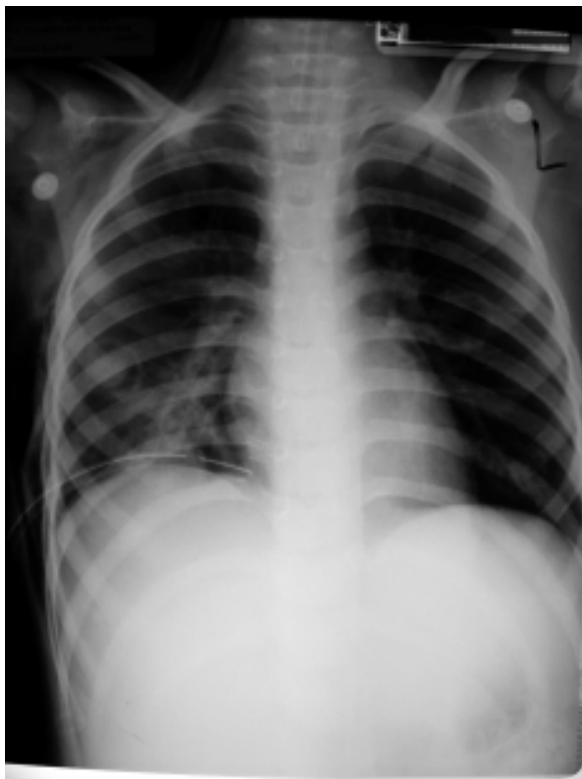
Female / 5 yr.

Known ALL on chemotherapy HKALL97 protocol.

Developed neutropenic fever with sudden onset of shortness of breath.

CXR showed pneumothorax and furthermore

Serial CXRs and CT thorax were done.



**What is the most probable diagnosis?**

- A. Round pneumonia
- B. Pneumatocele
- C. Pneumocystic pneumonia
- D. Pulmonary aspergillosis
- E. Diffuse strongyloidosis

*(Answer on page 17)*



### **Answers to Radiological Quiz on page 13**

#### **Answer: D**

For neutropenic fever in immunocompromised patients, invasive aspergillosis (IA) is one of the important etiology and failure to treat it promptly will lead to high mortality, as high as ~80%. The most common manifestation of IA is invasive pulmonary aspergillosis (IPA).

The radiographic features of IPA include the halo-sign and the air-crescent sign (in our case). The presence of "halo" of low attenuation surrounding a nodular lesion is an early finding in IPA, representing the angioinvasive property of aspergillus. Later in the course of infection these nodular lesion may cavitate (usually in the temporal association with the recovery of neutrophils), forming an "air-crescent" sign. IPA may cause pneumothorax when the fungi damage the lung wall, as demonstrated in our CT film. Pneumatocele is one of the differential diagnosis of the cystic lesion in the CXR together with pneumothorax. It is usually the sequelae of staphylococcus aureus pneumonia which usually shows extensive pneumonic change on the background of the cystic lesions.

Blood for galactomannin and 1,3-beta-glucan give the serological evidence of IA. However they are not sensitive. The definitive diagnosis of the IPA is based on the tissue biopsy and then the fungal culture. Empirical antifungal drug, mostly amphotericin B, should be commenced immediately in immunocompromised patients once IA is suspected in view of its high mortality. Aspergillus is resistant to fluconazole.

## **Acknowledgement**

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