



First case report of aspergillosis in hematological malignancy patients at King Abdulaziz Hospital, Jeddah, Saudi Arabia

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Abstract

Background: fungal infections are global threat especially to patients with altered immunity such as hematological malignancy patients. Among cancer types of hematological malignancies are in the top three of most common cancers among Saudi population. Occurring more in males and females 21.7 % and 12.1 % respectively. We report the first aspergillosis case in leukemia patients in West region of Saudi Arabia at King Abdulaziz Hospital (KAUH).

Methods: Electronic search (2019-2021) of KAUH data base of hematological patients' health records, clinical and radiological report, and laboratory test including: respiratory culture of sputum and bronchial wash, blood culture, complete blood count (CBC), renal and liver function tests.

Results: an aspergillosis case was identified at KAUH and categorized as probable according to EORTC. A 36-year-old male patient relapsed acute myeloid leukemia (AML) had multiple line related bacteremia. His treatment course included initial induction chemotherapy with 7+3 (cytarabine and DAUNOrubicin) followed by 3 cycles of consolidation with high dose cytarabine. He had an early relapse and was treated with second induction chemotherapy with salvage protocol FLAG-Ida consisting of fludarabine, cytarabine (Ara-C), granulocyte- colony stimulating factor (G-CSF) and idarubicin.

Conclusions: There have been significant changes in trends of fungal infections globally and in Saudi. Early screening, better diagnostic serological and molecular tools are needed for preventive measures. More epidemiological studies focusing on common fungal causative agents will aid the screening and diagnostic strategy and to evaluate etiological environmental and genetic factors

Case timeline

The patient was repeatedly negative for COVID-19

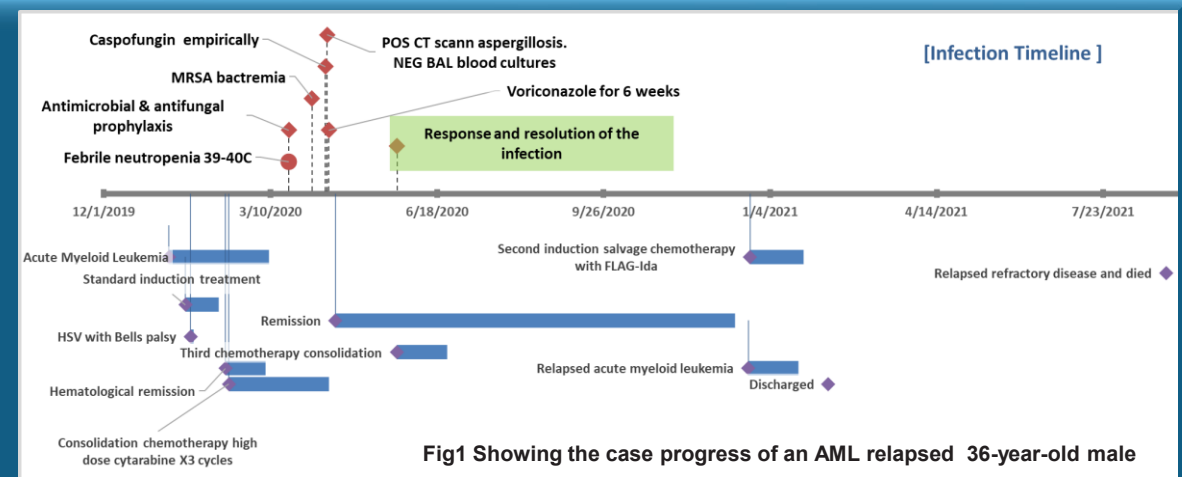


Fig1 Showing the case progress of an AML relapsed 36-year-old male

Radiological diagnosis

On 6th of Feb 2020 There were numerous bilateral variable size diffuse lung nodules, the largest is in the left upper lobe measuring 2 cm. Few of these nodules demonstrate minimal surrounding groundglass density giving the appearance of a hollow sign. Subsegmental atelectasis is seen in the lingula and left lower lobe. Decreased left pleural effusion with minimal residual. Minimal right pleural fluid is seen.

Numerous lung nodules, in the provided clinical context, most in keeping with atypical infection (fungal particularly aspergillosis).

-Interval improvement of the paraspinal and left pleural lesions.

On the 13th of April 2020 Interval resolution of most of the bilateral diffuse lung nodules with few residues, the largest is in the right middle lobe (image 56 of 181) measuring 1.2 cm. Subsegmental atelectasis is seen in the lingula and left lower lobe is unchanged. Decreased left pleural effusion with minimal residual. Interval resolution of right pleural effusion. No acute or chronic pulmonary embolism. Interval resolution of most of the bilateral diffuse lung nodules.



Fig2 CT scan and xray after treatment

Discussions

-Acute Myeloid Leukemia patients are one of the top high-risk population of Aspergillosis due to low neutropenia .

-Mycological diagnosis remains a challenge, especially in the absence of molecular diagnostic tools and culture failure. Having an expert radiologist and using the EORTC/MSG guidelines supports treatment decision.

-Although this patient responded to treatment and the infection resolved, early screening using serological and molecular tools are needed for preventive measures and detect resistance isolates.

References

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