

Chronic hepatitis B reactivation, invasive pulmonary and splenic aspergillosis, pulmonary actinomycosis and ESBL positive *Klebsiella pneumoniae* pneumonia in acute myeloid leukemia patient – case report**Guna Retere, Aleksandra Bunce, Ingrida Strika, Andrejs Rimša**
Liepaja Regional hospital, Latvia**Introduction**

• Patients with **acute myeloid leukemia** (AML) who undergo intensive chemotherapy are at high risk for infectious complications.¹

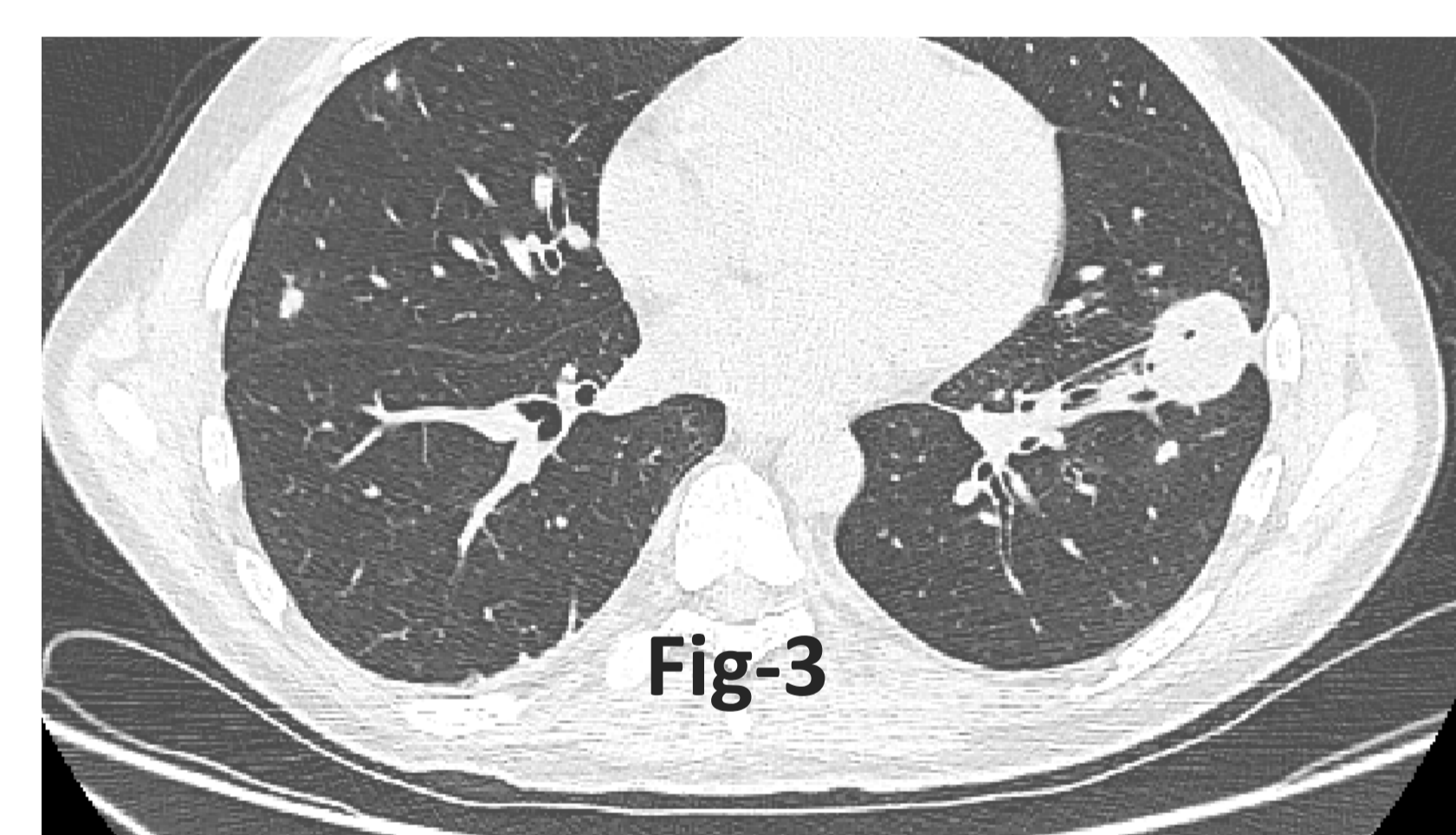
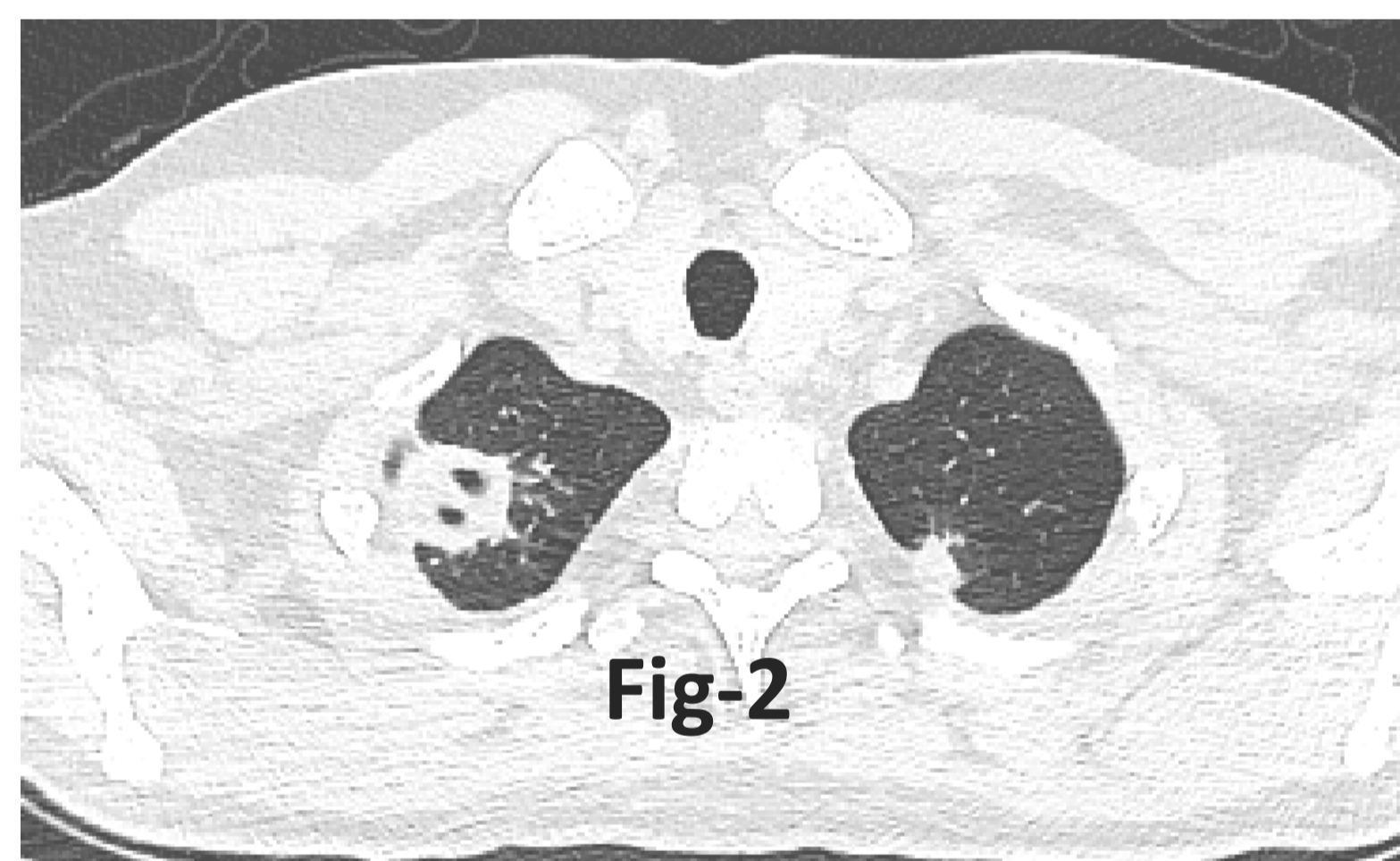
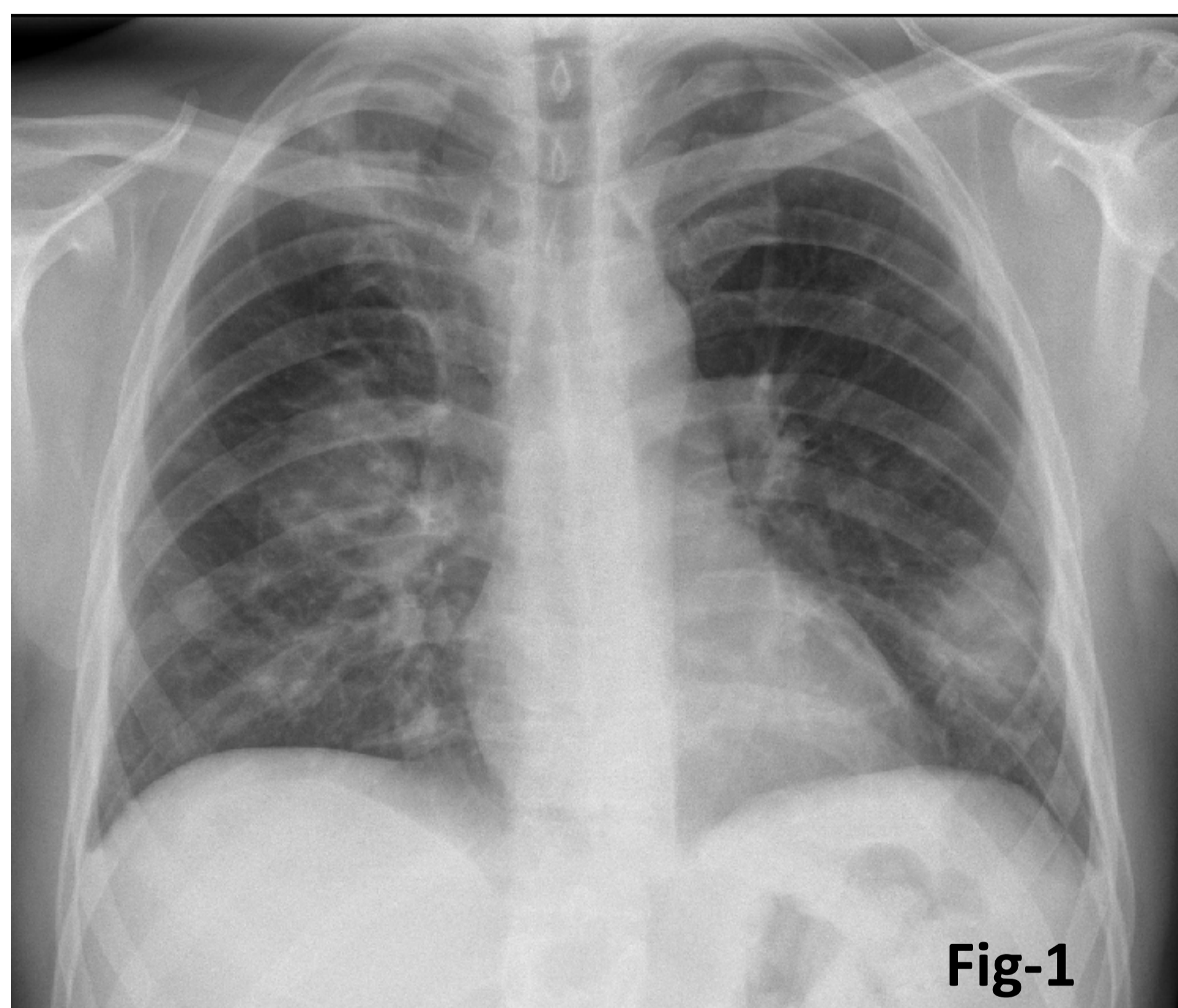
• In patients with AML, the **incidence of invasive aspergillosis** ranges from **2 to 28 percent**, with most studies reporting rates between 5 and 10 percent.²

• Among patients receiving chemotherapy or immunosuppressive therapy the rate of **HBV reactivation ranges from 19% - 48%** in previously HBsAg positive patients.³

• We report an unusual case of multiple chemotherapy induced infections in acute myeloid leukemia patient.

Case study

- A 40 year old male with remission of acute myeloid leukemia was hospitalised with jaundice, pain in the left upper abdomen when taking deep breath and rare, productive cough with blood tinged sputum.
- He was discharged from another hospital three weeks ago, where he received treatment for AML with “2+5” and “IDA-FLAG” chemotherapy. After chemotherapy the patient was diagnosed with invasive pulmonary and splenic aspergillosis and was treated with amphotericin B and voriconazole. Previously the same year patient was diagnosed with chronic hepatitis B infection (inactive carrier).
- Initial evaluation: T° 36.8°C, HR 117, BP 130/75, RR 14, heart, lungs within normal limits, liver 3 cm below the rib cage
- Laboratory investigation:
 - CBC: WBC – 8,76 k/μL, Hgb – 13,8 g/dL, monocytosis – 0,88 k/μL
 - Biochemistry – ALT (2052 U/L), AST (1245 U/L), total bilirubin (239 μmol/L), creatinine (63,3 μmol/L), CRP (36,7 mg/L)
 - Coagulation tests – prothrombin level (47,2%), INR (1,44)
 - HBV DNS – 636 000 IU/mL
- The patient was initiated on lamivudine.

Findings

Chest X-ray revealed a solitary nodular shadow over the left upper and lower lung fields (Fig-1).

A **CT scan** revealed bilateral, multiple nodules with cavitations in lungs and similar, multiple nodules in spleen (Fig-2 - 3).

Given the fact that the patient had stopped taking previously prescribed antifungal therapy with itraconazole and typical clinical (haemoptysis) and radiological findings, we decided to restart therapy for **invasive aspergillosis**.

Later the sputum culture revealed ***Actinomyces odontolyticus*** and **ESBL-positive *Klebsiella pneumoniae***.

The patient received antibacterial and antifungal therapy. He was discharged on day 62 with recommendations to continue antifungal, antiviral and antibacterial therapy.

Conclusions and recommendations

This case illustrates the importance of prophylactic antifungal and antiviral therapy in hematologic patients receiving chemotherapy.

All HBsAg-positive candidates for chemotherapy and immunosuppressive therapy should receive antiviral therapy as treatment or prophylaxis. This strategy can reduce the risk of reactivation from 24 to 53 percent to 0 to 5 percent.⁵

Antifungal prophylaxis with an oral triazole or parenteral echinocandin is recommended for patients who are at risk for profound, protracted neutropenia, such as most patients with AML.⁴

Key words

Acute myeloid leukemia Chemotherapy Antifungal prophylaxis Invasive aspergillosis Hepatitis b reactivation Actinomycosis ESBL positive *Klebsiella pneumoniae*

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