Title: B-cell Lymphoblastic Lymphoma Patient Presenting with Life-Threatening Ruptured Mycotic Aneurysm of the Internal Iliac Artery

Presenting Author Details:

Dr Mariam Malik , Consultant Radiologist Al Hilal Hospital , Muharraq , Bahrain.

Co-Authors:

Dr Muhammad Atif Naveed , Fellow in Neuroimaging, Memorial Sloan Kettering Cancer Centre , New York

Dr Muhammad Ahsan Asif , Observer Shaukat Khanum Memorial Cancer Hospital and Research Centre Lahore.

Dr Kashif Siddique , Head of Radiology Department , Shaukat Khanum Memorial Cancer Hospital and Research Centre Lahore.

Dr Urooj Kanwal , Resident Radiology Department Shaukat Khanum Memorial Cancer Hospital and Research Centre Lahore.

Abstract:

1. INTRODUCTION:

B cell lymphoblastic lymphoma patients are prone to develop fungal infection due to immunosuppression. Development of vascular mycotic aneurysms is one of the rare and fatal complications in immunosuppressed patients and is rarely considered by treating physicians. Its clinical presentation also mimic other conditions like appendicitis, lymphadenitis or cellulitis as in our case.

Here we describe a case of a 4yr old boy with B cell lymphoblastic lymphoma who developed widespread fungal infection with development of pneumothorax and pulmonary fungal infection. He also developed fungal infection of brain. He developed aneurysm of right internal iliac which was not timely diagnosed and at the time of diagnosis it had already ruptured with hematoma formation.2 days after diagnosis patient died due to cardiopulmonary arrest and also development of intraventricular hemorrhage.

2. CASE PRESENTATION:

4-year-old boy presented to the medical oncology outpatient department of Shaukat Khanum Memorial Cancer Hospital and research Centre with diagnosed case of B cell lymphoblastic lymphoma. CT was done which showed hepatosplenomegaly, bilateral axillary, retroperitoneal and inguinal lymphadenopathy. Intrathecal 3 drug regimen chemotherapy was started in operation theatre under general anaesthesia and bone marrow biopsy and aspiration done from right iliac crest in operation theatre which showed acute leukemia with 86% blast cells. Next day patient developed right lower quadrant which was suspected to be due to biopsy site cellulitis. He also developed some bowl symptoms so xray abdomen was done which was found to be normal. After 3 weeks he presented with tenderness in right iliac region which was thought to be due to lymphadenitis or acute appendicitis. He was clinically assessed, stabilized and discharged. After 2 days patient presented in emergency with

generalized tonic clonic seizures.CT brain showed intracranial bleed and this was followed by MRI brain with contrast which showed blooming artefacts representing microhemorrhages or mineral deposition in case of possible fungal infection. 2 days later he developed breathlessness for which x ray chest was done which showed spontaneous pneumothorax for which 12 Fr chest tube placed for 3 days with resolution of pneumothorax.3 days later MRI brain was repeated which showed interval increase in size of intraparenchymal lesion in brain. After 1 week patient developed right iliac fossa swelling for which ultrasound was performed which only showed right sided hydronephrosis. CT chest showed pulmonary cavitating nodules with surrounding ground glass haze and fungal infection was suspected. Tracheal aspirate showed aspergillus flavus. He was stabilized and discharged. After 3 days patient presented in emergency with increase in right inguinal swelling for which CT abdomen and pelvis was performed which showed ruptured right internal iliac artery mycotic aneurysm and bilateral hydronephroureter. Same day CT brain was repeated which showed intraventricular and intraparenchymal hemorrhages.3 days later patient died due to intraventricular hemorrhage and ruptured mycotic aneurysm.

3. CONCLUSION:

Early radiological imaging is critical for timely diagnosis and management of mycotic aneurysm as it can prove to be fatal. It is a rare yet dreadful and lethal complication in immunocompromised patients and can be mistaken for other conditions due to its non specific symptoms

Biography:

Dr. Mariam Malik is a Consultant Radiologist at Al Hilal Hospital Muharraq, Bahrain, with a specialized focus on cancer imaging. She has made significant contributions to the field, with her most recent publication in December 2024 in the Radiology Case Reports journal, titled "Case Report: B-cell Lymphoblastic Lymphoma Patient Presenting with Life-Threatening Ruptured Mycotic Aneurysm of the Internal Iliac Artery." This research was conducted during her fellowship at Shaukat Khanum Memorial Cancer Hospital and Research Centre, Lahore, from August 2023 to September 2024, where she specialized in CT and MR cross-sectional imaging, particularly for cancer patients. Dr. Malik has a strong interest in neuroimaging and interventional radiology, with notable achievements during her fellowship, including winning 1st prize in a poster presentation at the Body Imaging Conference in April 2024 for "Imaging of Head and Neck Emergencies." She also presented a paper at the SKM Symposium in September 2024 on "Imaging Review of Rare Sinonasal Tumors Presenting in Our Institution." Additionally, she delivered two poster presentations at the 40th International Radiology Conference in November 2024 in Pakistan, focusing on quality improvement projects in cancer imaging: "Quality Improvement Project of Dynamic Susceptibility Contrast-Enhanced (DSC) MR Brain Perfusion Imaging" and "Quality Control Audit for Standardization of MRI Breast Reporting for Local Staging of Breast Cancer in Comparison to the Standardized Guidelines." Earlier in her career, during her residency in 2016, she secured 1st prize in a paper presentation at the 31st International Radiology Conference in Lahore for her study on "Correlation Between High-Resolution Ultrasonography and Electrodiagnostic Studies in Patients with Carpal Tunnel Syndrome (CTS)." Dr. Malik continues to contribute to advancements in radiology, particularly in the domain of oncology imaging.