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Clinical Image

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Hlh-Associated T-Cell Lymphoma: An Unforgiving Alliance

Chiriac R[1*], Hammami E[1], Newinger-Porte M[2], Debliquis A[1] and Harzallah I[1]

[1]Laboratoire d'Hématologie, Groupe Hospitalier de la Région de Mulhouse et Sud Alsace, Mulhouse, France

[2]Service d'Hématologie Clinique, Groupe Hospitalier de la Région de Mulhouse et Sud Alsace, Mulhouse, France

[*]Corresponding author:

Radu Chiriac,
Laboratoire d'Hématologie, Groupe Hospitalier de la Région de Mulhouse et Sud Alsace, 20 rue du Dr Laennec, 68051, Mulhouse, France

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1. Clinical Image

A 40-year-old woman with a history of asthma presented to the emergency department with a one-month history of fatigue, fever, and shortness of breath. The clinical examination revealed no abnormalities.

Initial laboratory investigations revealed findings suggestive of hemophagocytic lymphohistiocytosis (HLH): hemoglobin level of 8 g/dl, platelet count of 44,000/mm3, absolute neutrophil count of 1,000/mm3, fibrinogen level of 0.9 g/L, triglycerides level of 5.3 mmol/L, lactate dehydrogenase level of 1,400 U/L, and ferritin level of 33,000 µg/L. Peripheral blood smears revealed a few large abnormal circulating cells. Computed tomography of the thorax, abdomen, and pelvis detected hepatomegaly. The bone marrow aspirate showed significant hemophagocytosis (Figure 1, upper panel) and a few large pleomorphic cells with irregular nuclear contours and basophilic cytoplasm (Figure 1, lower panel). The flow cytometry (FCM) analysis did not detect the presence of these notably enlarged cells. Biopsy results indicated that the cells were positive for CD45, CD2, CD3, CD4, CD30, but negative for ALK. No DUSP22 or TP63 rearrangements were detected. A diagnosis of HLH arising in the context of anaplastic large cell lymphoma (ALK-negative) was established. The patient was considered for HLH treatment with an etoposide-based chemotherapy regimen initially, and subsequently, cyclophosphamide was introduced to address the underlying lymphoma. She passed away two weeks following the initial diagnosis.

The diagnosis of HLH was straightforward, given the results of the laboratory tests and the abundance of haemophagocytosis images. However, the atypical cell size, lack of lymphoma cell detection by FCM, and the absence of lymph nodes made an immediate diagnosis of anaplastic lymphoma challenging.

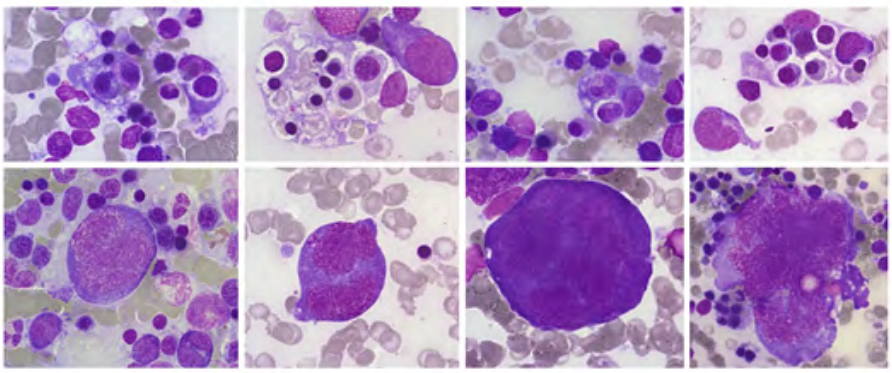

Figure 1: The bone marrow aspirate exhibits various images of hemophagocytosis (upper panel, total magnification x1000, May Grünwald-Giemsa stain) and a few pleomorphic lymphomatous cells (lower panel, total magnification x630, May Grünwald-Giemsa stain).