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HEMOPHAGOCYTIC LYMPHOHISTIOCYTOSIS: STILL A MORPHOLOGICAL DIAGNOSIS

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The fulminant hemophagocytic syndromes, as recently defined by Cline,[1] are aggressive and often fatal disorders, most frequent in children but occurring in all ages, that are characterized by fever, systemic symptoms, jaundice, multiple organ failure, coagulopathy, and phagocytosis of blood elements with cytopenias. Death may occur in up to 40% of cases. A distinction is generally made between familial hemophagocytic lymphohistiocytosis (FHL) and a sporadic, generally virus-associated hemophagocytic syndrome (VAHS). The morphologic hallmark of hemophagocytic lymphohistiocytosis (HH) is the demonstration of non malignant macrophages phagocytosing all sorts of marrow and blood cells; this finding has rightly been called a *critical feature*.[2] In some cases this feature can be best recognized in supravital preparations.[3] Chromosomal alterations have been identified in malignant HH.[1]

Case history

A 77-year-old male was diagnosed as being affected by B-CLL, with 32×10^9/L WBC in 1989. There were no palpable lymph nodes, but the spleen was moderately enlarged (15 cm on sonography). The patient was treated with widely spaced cycles of chlorambucil between 1989 and 1994.

In April 1994 he developed a fever and progressive, severe pancytopenia. Myeloaspirates showed sparse lymphocytic aggregates and abundant clusters of hemophagocytic and non-phagocytic macrophages instead of the former massive lymphocytosis (Figures 1-4).

The karyotype was 46,XY. The patient was treated with high-dose corticosteroids, blood transfusions and antibiotics, but his general condition steadily deteriorated with worsening of pancytopenia and he died 8 days after admission to the hospital.

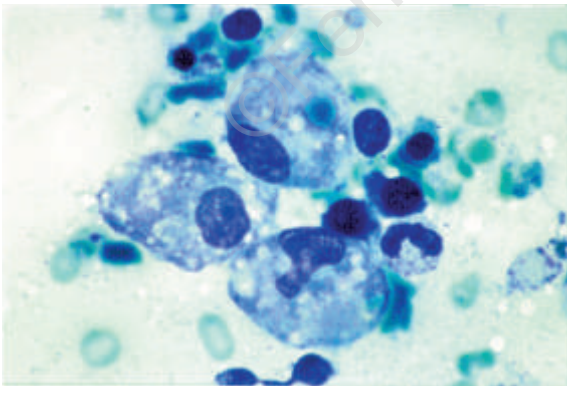

Figure 1. Typical nonmalignant histyocyte-macrophages with little or no erythrophagocytosis.

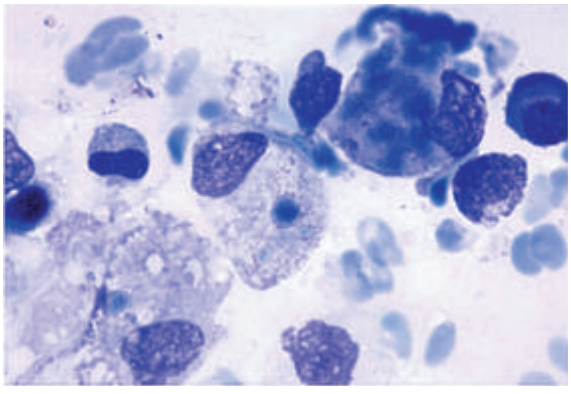

Figure 2. Erythrophagocytosis is already visible, and very intensive in one macrophage.

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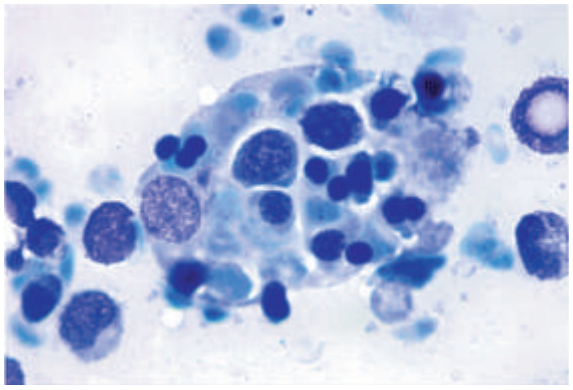

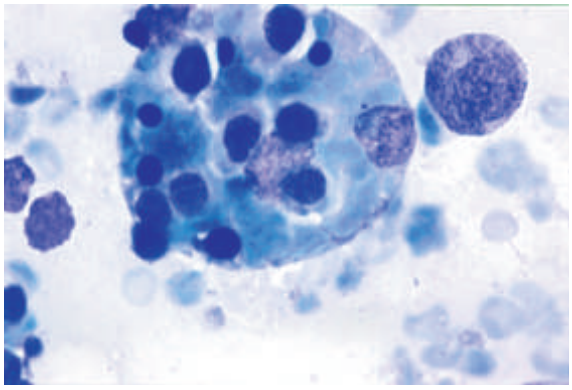

Figures 3 and 4. Very intensive phagocytosis, mainly of erythroblasts.

Comment and conclusions

There is little doubt that this patient suffered from an indolent B-CLL,[4] and that death was due to a supervened VAHS. Unlike another case in which the phagocytic histiocytes could only be identified on supravital preparations because of their fragility on smears, here all stages of the hemophagocytic process could be appreciated on conventionally stained slides. There were no cytogenetic alterations. The diagnosis of HH is still typically a morphologic diagnosis.

References

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