Massive Bone Marrow Carcinomatosis Presenting with Leukoerythroblastic Blood Reaction

A. Garzó, J Verdú-Belmar, E Campos, FJ De Paz and F Tarín
General Hospital of Alicante, Spain

Clinical Image

We present a case of an extensive bone marrow infiltrate of poorly differentiated carcinoma, in a 19-year-old male with suspected progression of sinusoidal undifferentiated carcinoma, after several lines of treatment.

A 19-year-old male with a history of sinusoidal undifferentiated carcinoma was admitted for suspected progression after several lines of treatment, presenting severe bicytopenia (19,000 × 10^3/µL platelets and hemoglobin of 9.8 g/dL). A leukoerythroblastic blood picture was observed with immature myeloid forms and 20% to 30% of erythroblasts, without atypical or blast cells. The bone marrow aspirate showed a great infiltration by polymorphic cells with numerous cytoplasmic blebs, that were organized in occasional syncytia and these findings did not suggest a hemopoietic population (Figure 1, panels A-C: Wright-Giemsa stain; 10x, 100x and 40x objective lens respectively) [1]. Diffuse bone marrow infiltration by neoplastic cells results in replacement of hematopoietic elements in the marrow.

Flow cytometry plots of those abnormal cells showed expression of CD56 and NG2, without expression for myeloid/monocytic antigens, erythroid/megakaryocytic antigens, lymphoid antigens, dendritic cells and stem cells. The study was compatible with medullary infiltration by extra hematological neoplasia of epithelial/neuroepithelial origin CD56+(NCAM+) and NG2+. Pathologist interpretation revealed an extensive infiltrate of poorly differentiated carcinoma.

Bone marrow metastases usually present undifferentiated morphological characteristics and the diagnostic requires the integration of clinical manifestations, laboratory findings, morphology, flow cytometry, immunohistochemistry techniques, cytogenetics and molecular biology [2,3]. The contribution of flow cytometry and pathologist interpretation was essential in this case.

References

