

Images in Clinical Hematology

Lymphocytes with auer rod-like inclusions in chronic lymphocytic leukemia



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A 45-year-old man with history of hypothyroidism underwent a control analysis in which lymphocytosis was detected (lymphocyte count: $10,08 \times 10^9/L$). Family background highlighted chronic lymphocytic leukemia in his mother. The patient was asymptomatic, without lymph nodes or visceromegalies in physical examination. Neither anemia nor thrombocytopenia were detected (hemoglobin 163 g/L and platelets $287 \times 10^9/L$).

Peripheral blood smear showed atypical lymphocytes intermediate in size, some of them with clumped chromatin (Figures 1 and 2) but others with evident nucleoli (Figure 3),

and moderate cytoplasm with multiple azurophilic needle-shaped inclusions, also called Auer rod-like (Figures 1-3). By flow cytometry, the 99% of B lymphocytes expressed CD45, CD19, CD20, CD5, CD23, CD200, CD43 and were negative for CD10, CD103, CD22, CD81, CD25, CD305 and kappa and lambda surface chains. Diagnosis of chronic lymphocytic leukemia (CLL) was established.

Auer rods are a morphological hallmark of acute myeloid leukemia and are important to classify myelodysplastic syndromes. However, Auer rod-like inclusions are an uncommon

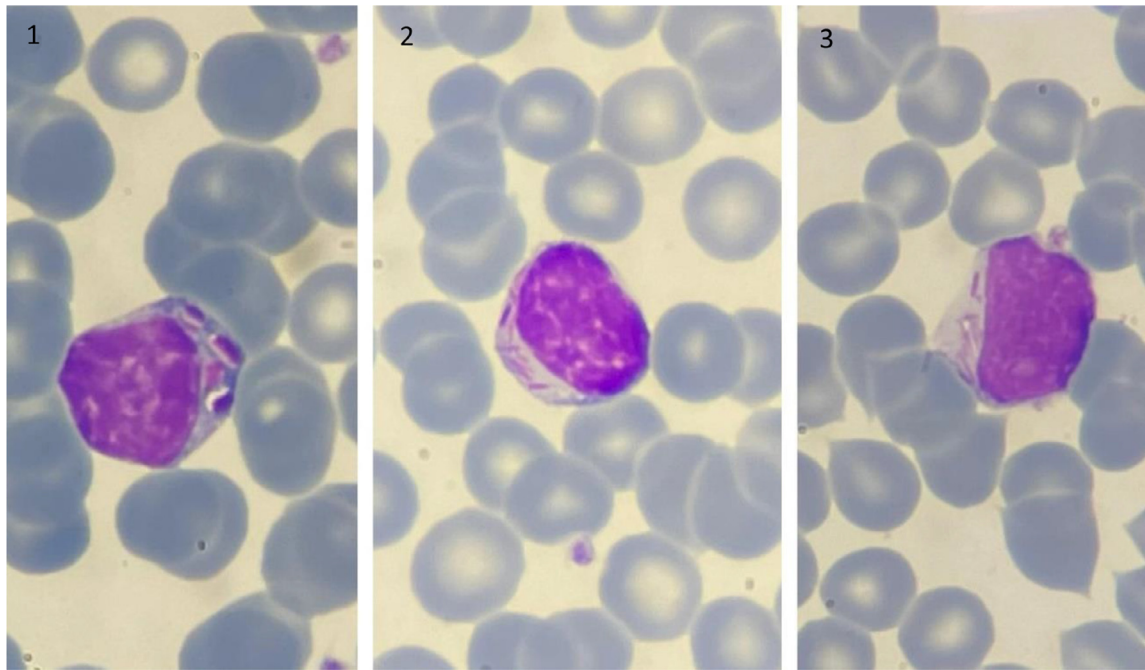
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Figures 1-3 – Lymphocytes with Auer rod-like inclusions (May-Grünwald Giemsa x100 objective).

finding that has been described in different B cell lymphoproliferative disorders like CLL.^{1,2} The composition of these inclusions is uncertain, some authors suggest a lysosomal origin,² but others hypothesize they are abnormal immunoglobulins which precipitate in the cytoplasm.^{1, 3} This case emphasizes the importance of an integrated diagnosis in hematological malignancies.

Conflicts of interest

The authors declare no conflicts of interest.

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