[PICTURES IN CLINICAL MEDICINE]

Auer-rod-like Inclusions in the Mature Neutrophils of a T-acute Lymphoblastic Leukemia Patient

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Picture.

A 70-year-old man presented with a 2-week history of fatigue. A hematological examination showed a leukocyte count of $16.2 \times 10^9/L$, hemoglobin level of 104.0 g/L, and

platelet count of $204.0 \times 10^9/L$. A peripheral blood smear showed 53% medium-sized blasts, with finely-dispersed chromatin and inconspicuous nucleoli (Picture, arrowhead).

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In addition, 7% of segmented neutrophils had cytoplasmic inclusions that closely resembled bundles of Auer rods (Picture, arrow). Bone marrow aspiration revealed that 90% of blasts were positive for CD2, cytoplasmic CD3, CD7, TdT, CD34, and CD99 and negative for CD19, CD20, and cytoplasmic myeloperoxidase on a flow cytometric analysis. A cytogenetic analysis showed a normal karyotype. These findings confirmed the diagnosis as T-cell acute lymphoblastic leukemia (ALL). Auer rods are morphological hallmarks that can be observed in acute myeloid leukemia or myelodysplastic syndrome. The possible mechanism underlying the Auer rod formation in this case is considered to be due to the concomitant abnormal hematopoiesis in the myeloid lineage. Auer-rod-like inclusions have rarely been observed in ALL (1, 2). This case emphasizes that their presence does

not exclude an ALL diagnosis.

The authors state that they have no Conflict of Interest (COI).

References

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