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IMAGES

Unusual Sites of Auer Rod in AML with t(8;21)

Yi Feng[1]

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A 37-year-old woman was admitted to our hospital with fever for 3 days. She had a history of gestational hypertension and psoriasis. Her peripheral blood cell count showed 75 g/L hemoglobin, 51×10^9/L platelets, and 5.5×10^9/L leukocytes. The differential count showed 22% neutrophils, 15% lymphocytes, 2% eosinophils, 10% monocytes, and 51% blasts. Bone marrow aspiration with Wright-Giemsa stained revealed hypercellularity with 53% blasts and eosinophilia (12%), as well as numerous Auer rods in eosinophils, sea-blue cells, and phagocytes (Fig. 1a–d; original magnification 1000 ×). Flow cytometry analysis demonstrated blasts positive for CD33, CD13, cMPO, HLA-DR, CD117, CD34, CD38. The cytogenetics test found a 45, X, −X, t(8:21) (q22;q22)[20] karyotype, and molecular study showed *RUNX1–RUNX1T1* rearrangement suggestive of AML with t(8;21).

Presence of Auer rods is significant observation favouring the diagnosis of myeloid leukaemias [1]. Herein, we present a very rare case of AML that Auer rods found in sea-blue cells and phagocytes. This phenomenon may be caused by blast cells cytoplasmic fragments containing Auer rods engulfed by macrophages, and persisted due to the Auer rods resist digestion by enzymes in the histicytes [2]. Moreover, Auer rods are detected in eosinophils in our case, and it has never been reported in the literature. An explanation of Auer rods noted in eosinophils is associated with immature cytoplasm containing many primary granules. Take together, this case highlights the importance of careful bone marrow examination showing that Auer rods can be present in unusual cell subtypes that are not described very commonly.

✉ Yi Feng
fengyi5411@sina.com

[1] Department of Laboratory Medicine, Shaoxing People's Hospital, No. 568 North Zhongxing Road, Shaoxing City 312000, Zhejiang Province, China

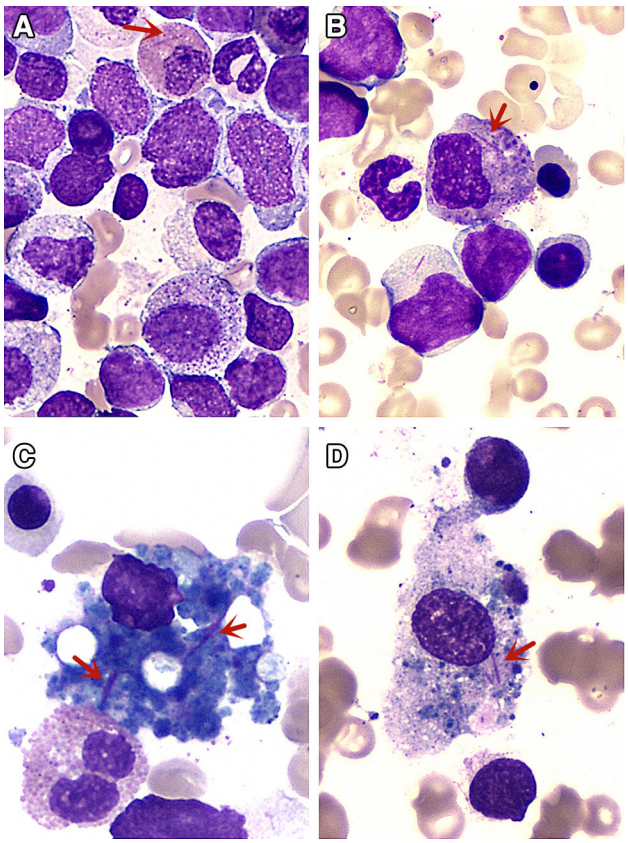

Fig. 1 Wright-Giemsa stained bone marrow aspirate smear showing Auer rods (arrows) in eosinophils (**a**, **b**), sea-blue cells (**c**), and phagocytes (**d**)

Compliance with Ethical Standards

Conflict of interest There are no conflicts of interest to disclose.

References

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