

CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

Hematology-Cell Morphology – Case 3

(A)

It is smaller than the basophilic erythroblast. The size of the nucleus is smaller than the cytoplasmic shrink and the nucleus is smaller than the cytoplasm (N/C ratio 1 to 4). The nuclear chromatin is darker with a cartwheel network, with a few range clumps of chromatin, while sometimes it assumes a cloverleaf network particularly in cases of stressed erythropoiesis. The cytoplasm is blue-pink because of the hemoglobin presentation and often contains a similar basophilic stippling appearance (abnormal erythropoiesis or an artifact). Polychromatophilic erythroblasts constitute 3.5–20.5% of the myeloid cells series (figures 1–8).

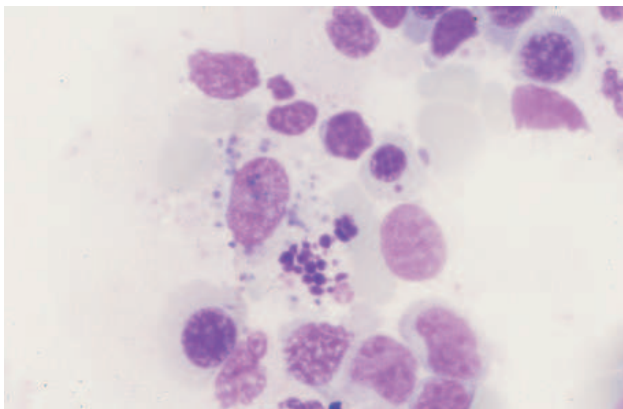


Figure 1

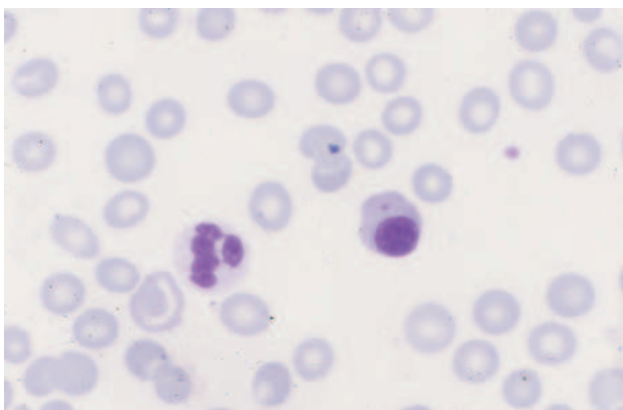


Figure 2

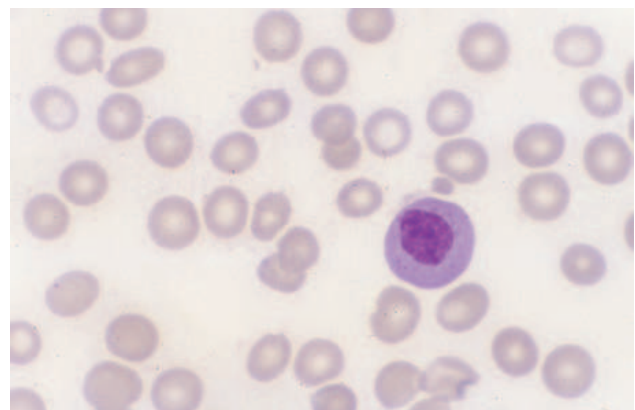


Figure 3

ARCHIVES OF HELLENIC MEDICINE 2020, 37(1):139–142
ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2020, 37(1):139–142

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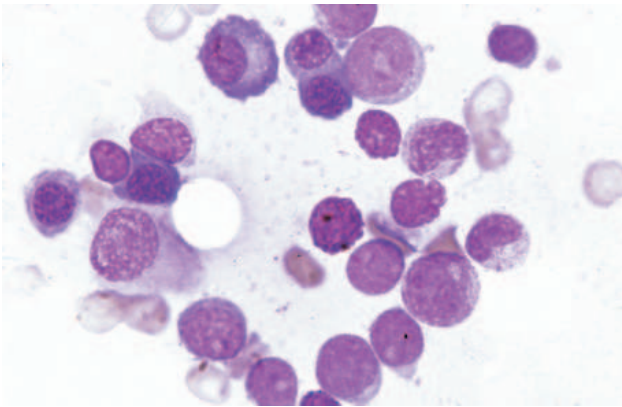


Figure 4

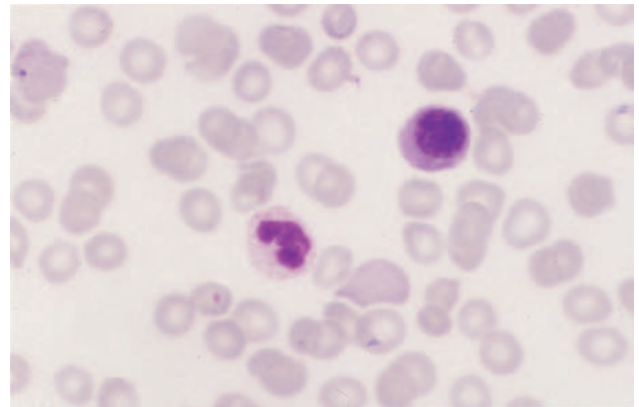


Figure 7

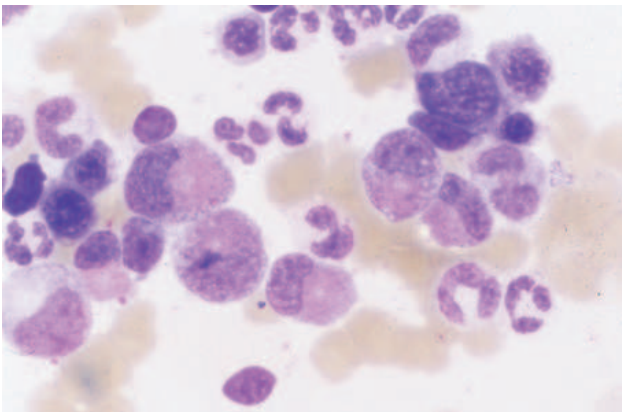


Figure 5

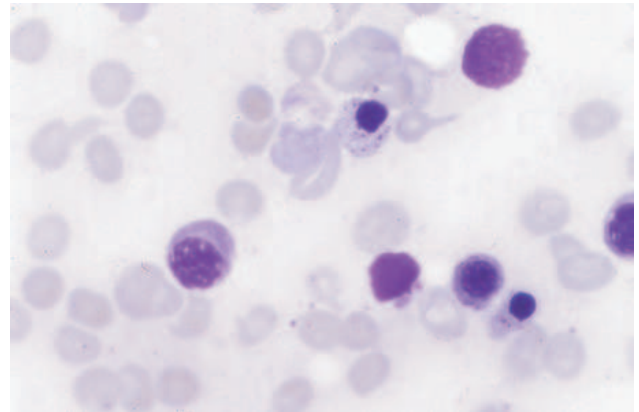


Figure 8

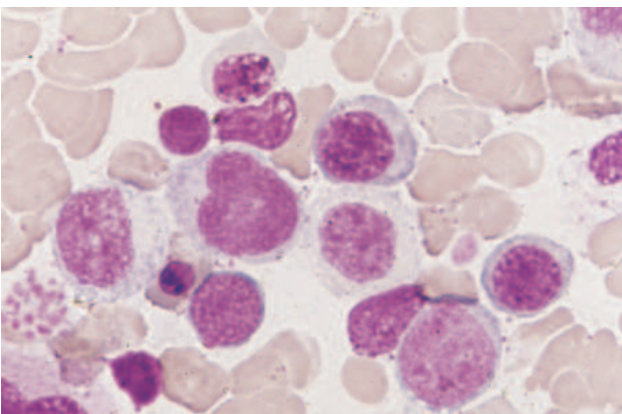


Figure 6

(B)

This is a smaller cell with a pyknotic nucleus and acidophilic cytoplasm with a more blue-pink color than the mature erythrocyte because of the RNA content of the erythroblast. They constitute 3–25% of the myeloid cells. Following that the nucleus was shed broken loose and one may observe cells with different phases of shedding, with an anomalous outline (contour) of the cells. In the bone marrow and the peripheral blood smear, nuclei without cytoplasm may be present, particularly in cases of many circulating erythroblasts, because the nucleus detaches the remaining cells during smear preparation (artifact). *In vivo* the extracted nuclei are soon phagocytosed by the macrophages (figures 9–16).

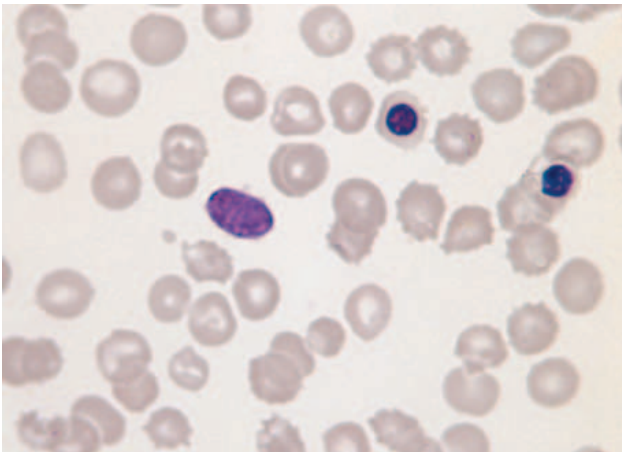


Figure 9

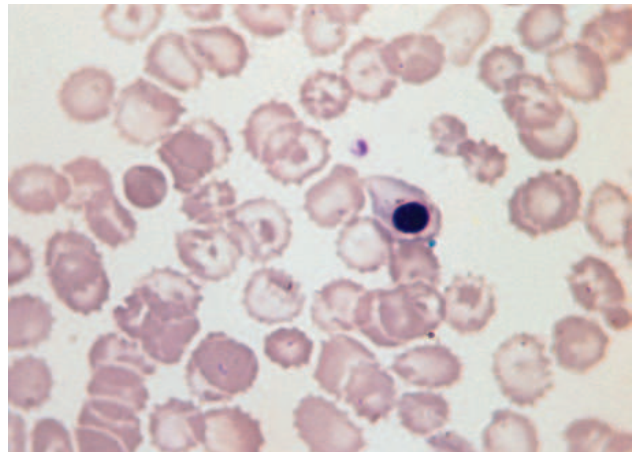


Figure 12

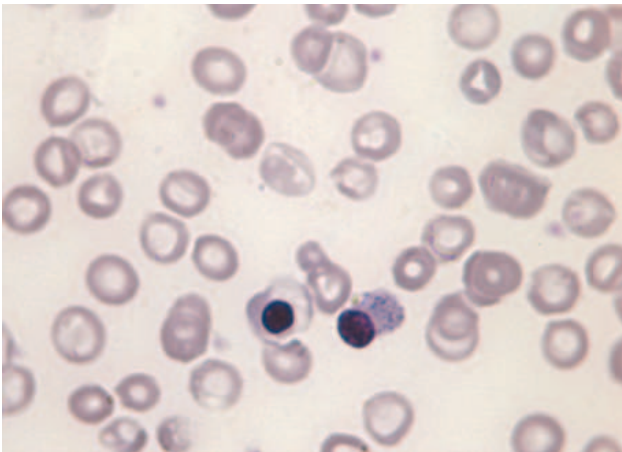


Figure 10

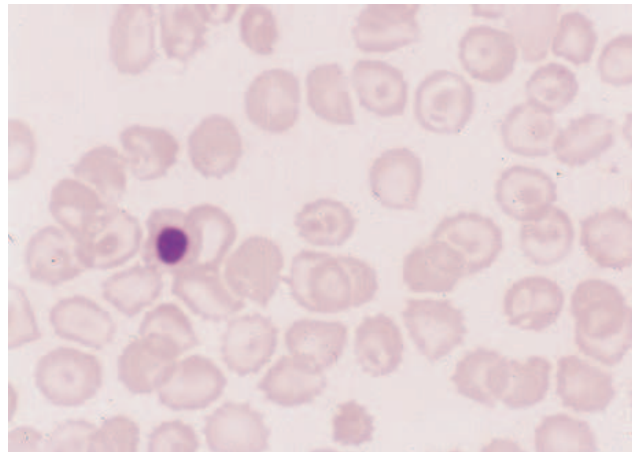


Figure 13

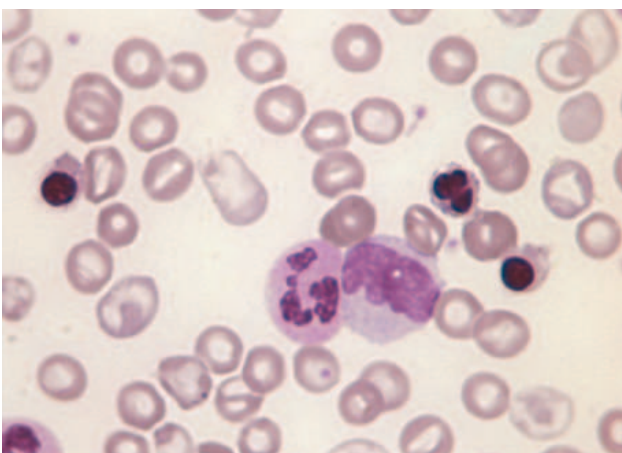


Figure 11

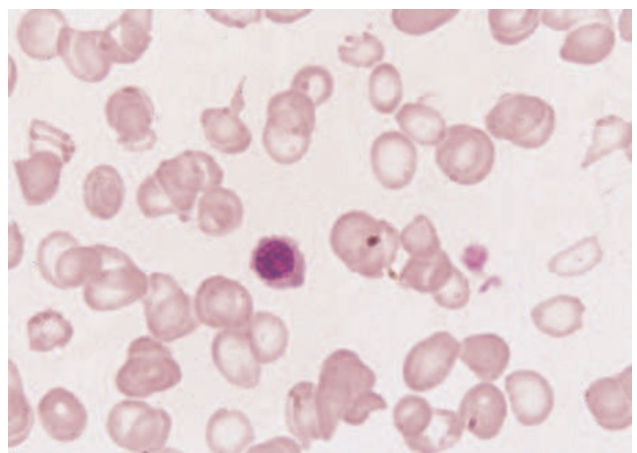


Figure 14

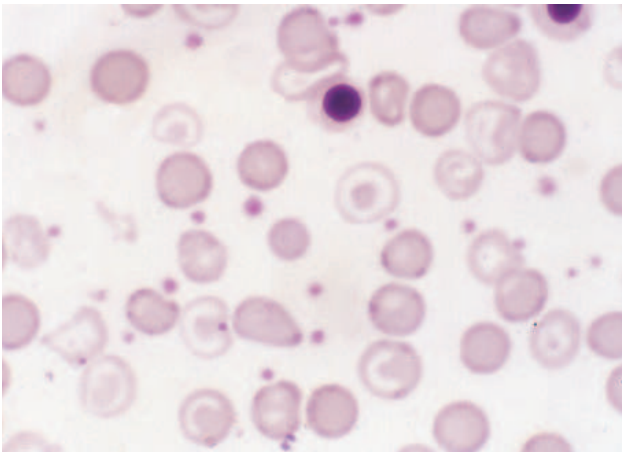


Figure 15

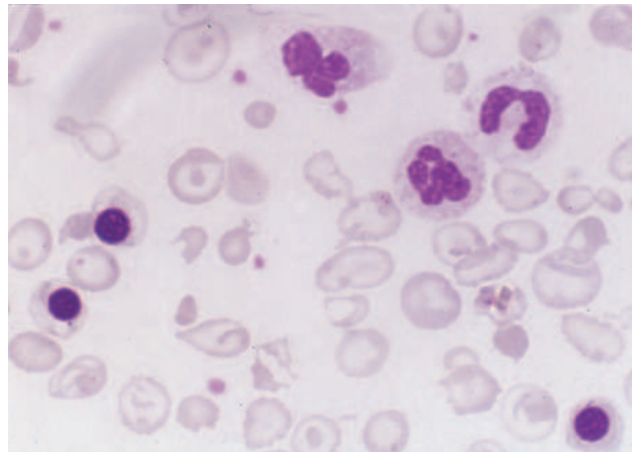


Figure 16

Reference

1. MELETIS J. *Atlas of hematology*. 3rd ed. Nireas Publ Inc, Athens, 2009:15–19

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Cell type: (A) Polychromatophilic erythroblast; (B) acidophilic or orthochromatic erythroblast
