ARCHIVES OF HELLENIC MEDICINE: ISSN 11-05-3992

CONTINUING MEDICAL EDUCATION
ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

Hematology-Cell Morphology – Case 5

ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2020, 37(3):425–428
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**J.V. Asimakopoulos,
L. Papageorgiou,
P.M. Arapaki,
C. Chatzidimitriou,
M. Belia,
E.F. Triantafyllou,
E. Konstantinou,
M. Efstathopoulou,
D. Galopoulos,
J. Drandakis,
A. Machairas,
A. Kopsaftopoulou,
F. Panitsas,
K. Benekou,
E. Sinni,
M.P. Siakantaris,
P. Tsaftaridis,
E. Plata,
T.P. Vassilakopoulos,
M.K. Angelopoulou,
K. Konstantopoulos,
J. Meletis**

Hematology Department and Bone Marrow Transplantation Unit, National and Kapodistrian University of Athens, School of Medicine, "Laikon" General Hospital, Athens, Greece

(A)

This is the earliest recognizable cell of the granulocytic series. It represents 0.1–3.5% of bone marrow cells. It is often a round cell with a diameter of 20–25 μm, and a high nucleus to cytoplasm ratio (N/C). The diameter is 15–20 μm. The nucleus is large, round or oval and takes up nearly all the cellular area (N/C ratio approximately 6:1), with a fine chromatin network, with 2–5 pale blue nucleoli, with scanty clear blue cytoplasm containing several azurophilic granulations (rare or scanty in more immature cells) (figures 1 to 8, 11, 15) which are positive on peroxidase staining (figures 9, 10).

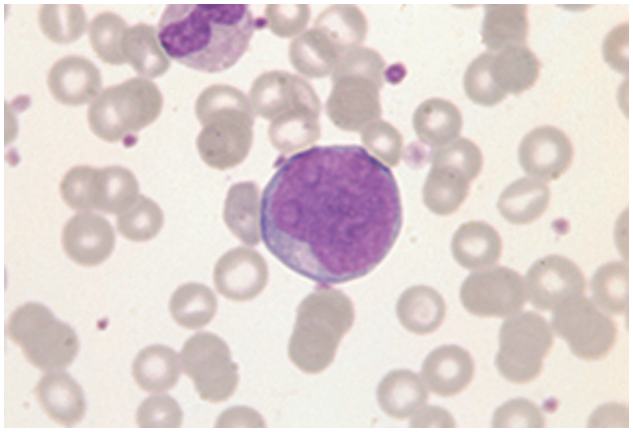


Figure 1

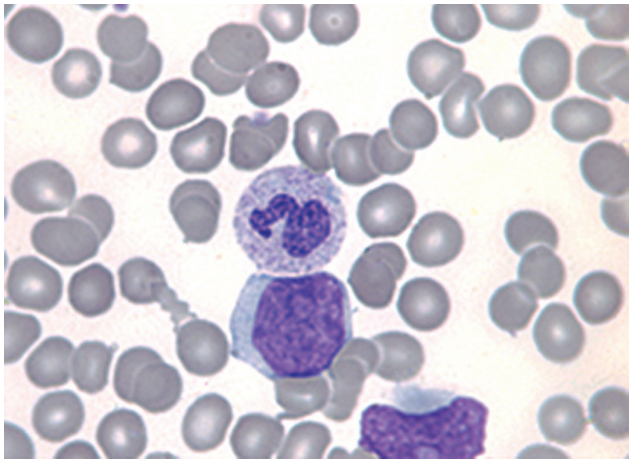


Figure 2

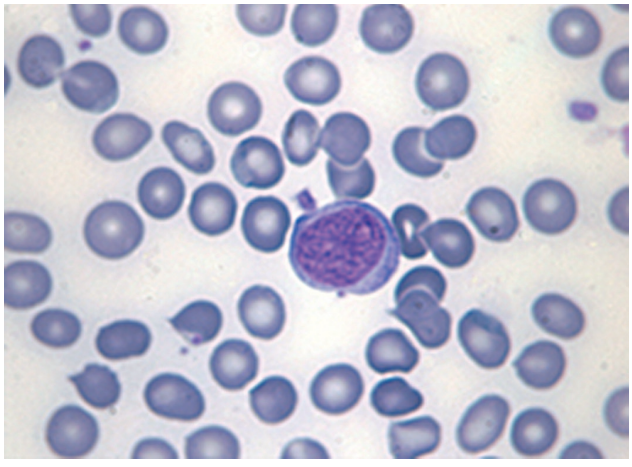


Figure 3

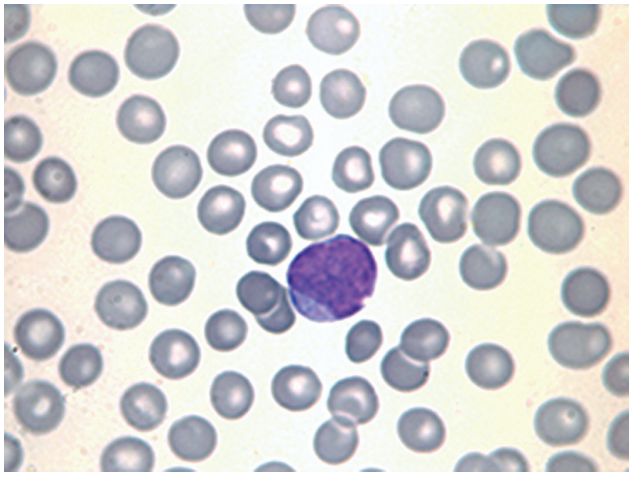


Figure 4

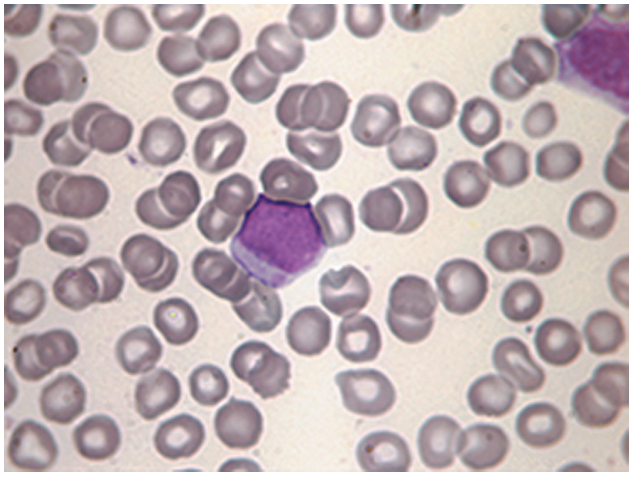


Figure 5

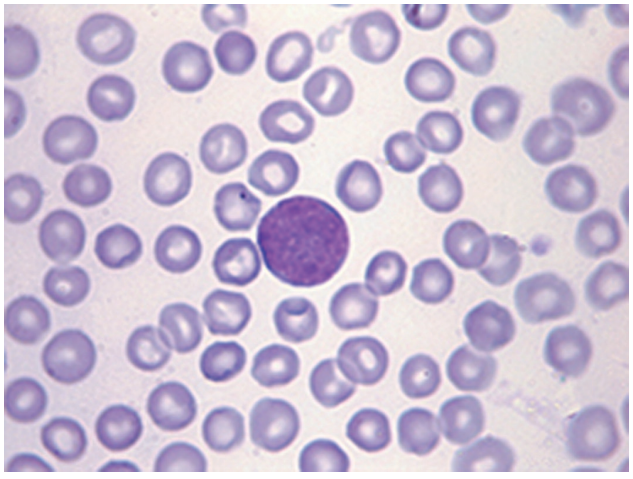


Figure 6

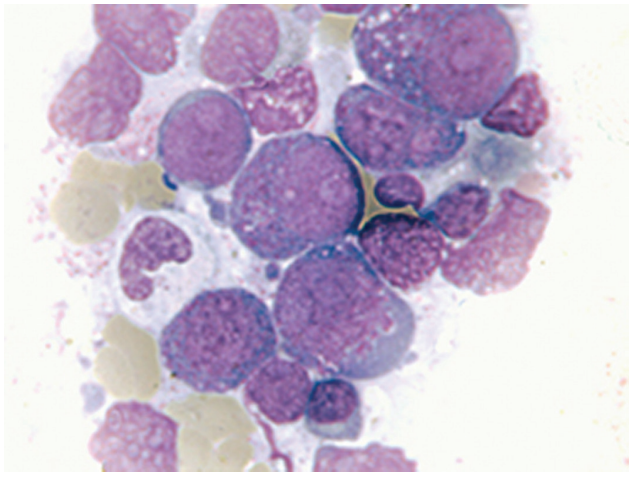
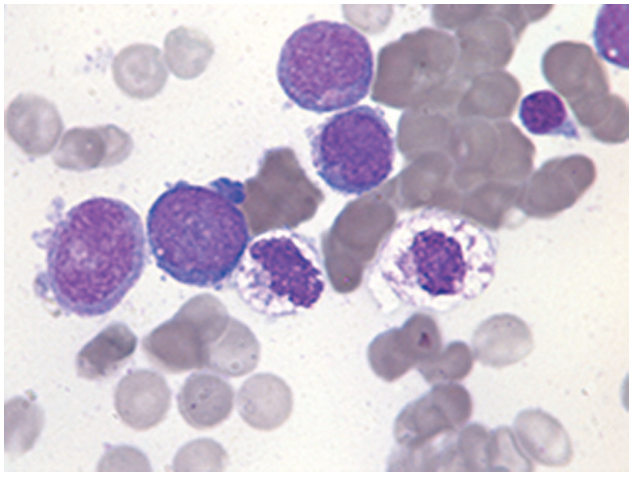


Figure 7



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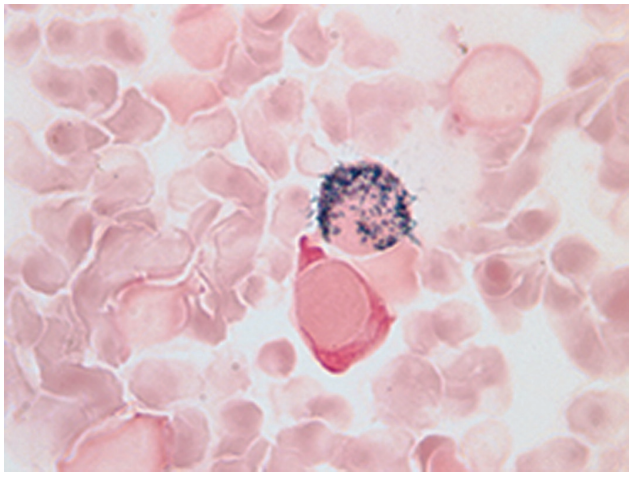


Figure 9

(B)

A cell measuring 15–30 µm with a large round, oval or with a slight concave compression nucleus (N/C ratio approximately 4:1) with condense chromatin appearance in many nuclear parts, containing one or more nucleoli. The quantity of cytoplasm varies and has a light basophilic, well visible agranular perinuclear halo, while the remaining part usually contains a heavy granulation (azurophilic granules of different size and shape) (figures 7, 8, 11 to 15). They represent approximately 1–8% of the myeloid cells. The granules are positive on peroxidase staining (figures 9, 10, 16 to 18).

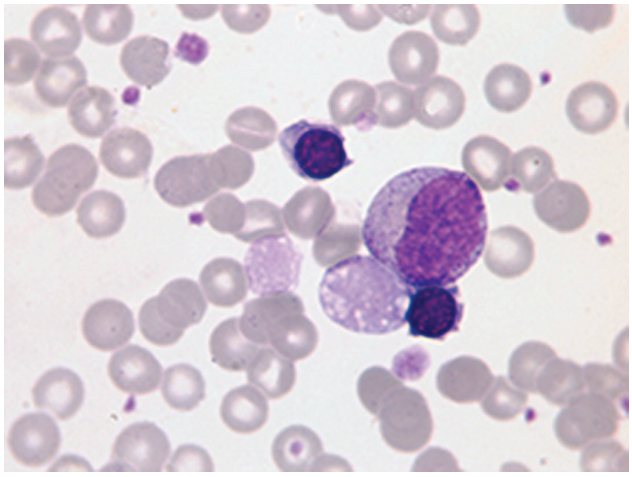


Figure 12

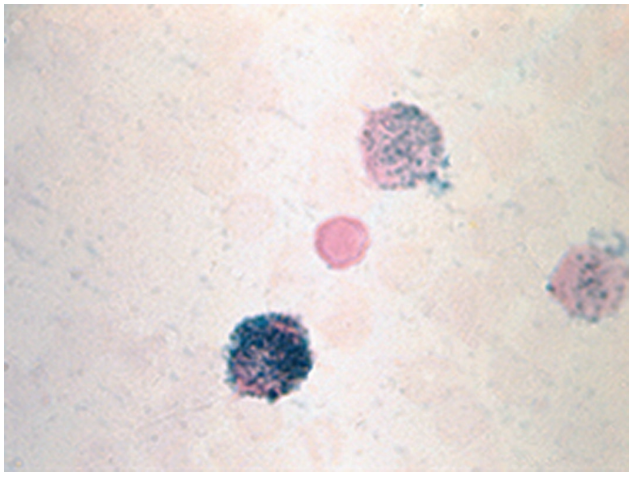


Figure 10

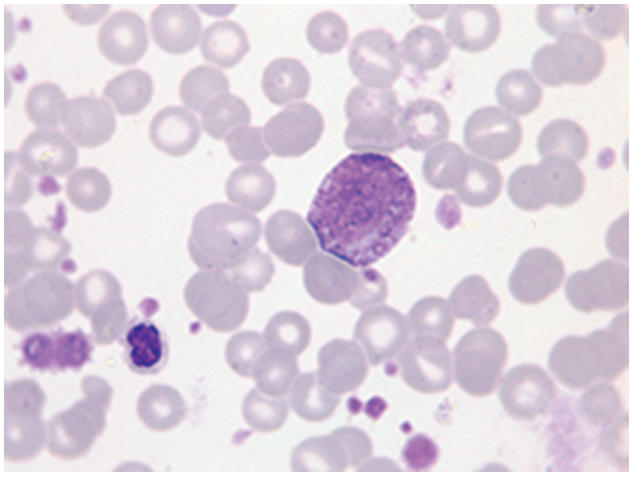


Figure 13

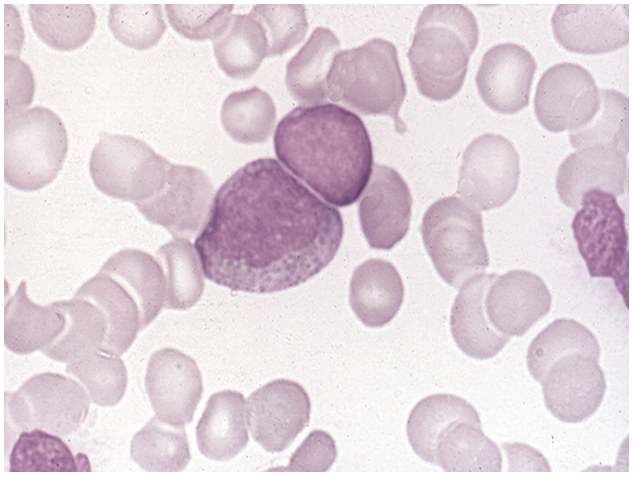


Figure 11

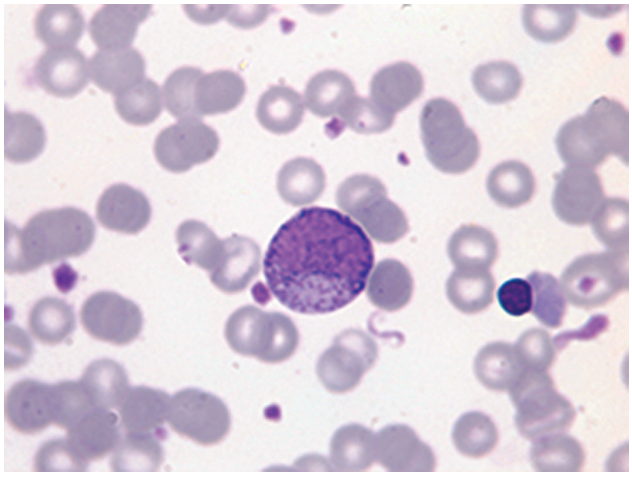


Figure 14

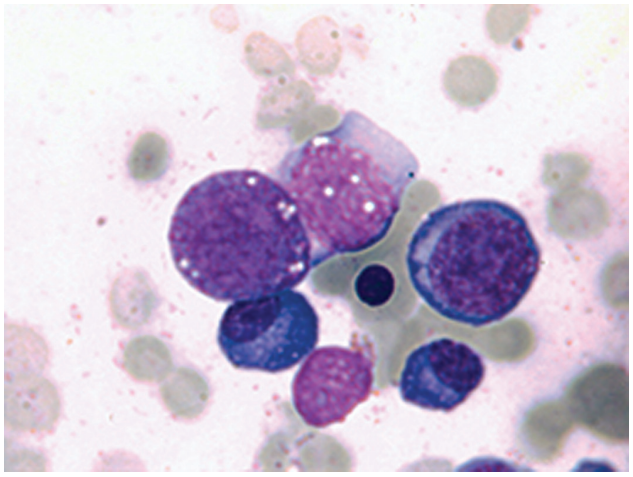
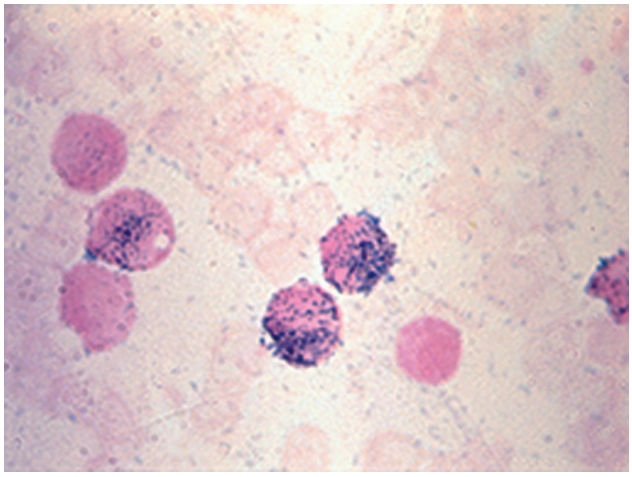


Figure 15



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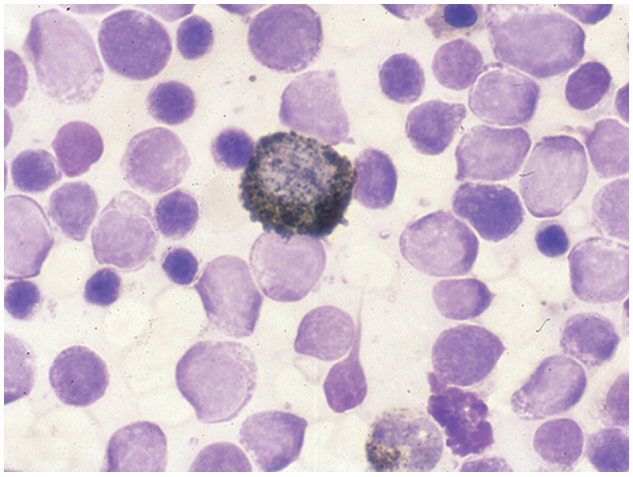

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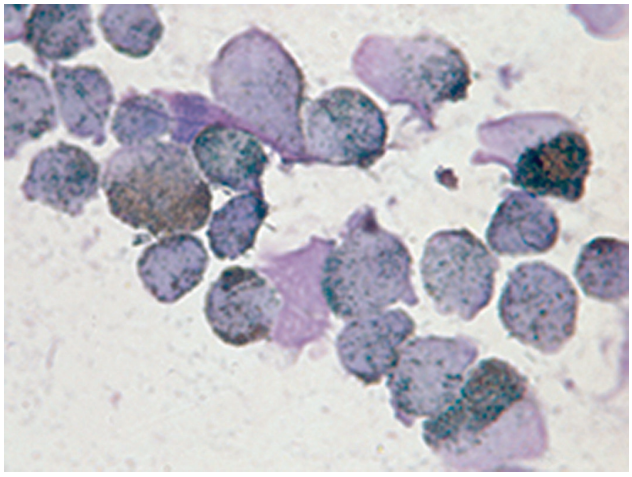

Figure 18

References

1. MELETIS J. *Atlas of hematology.* 3rd ed. Nireas Publ Inc, Athens, 2009:23–28

Corresponding author:

J. Meletis, Hematology Department and Bone Marrow Transplantation Unit, National and Kapodistrian University of Athens, School of Medicine, "Laikon" General Hospital, Athens, Greece
e-mail: imeletis@med.uoa.gr

Cell type: *(A) Myeloblast; (B) promyelocyte*