

## CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

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### Hematology-Cell Morphology – Case 1

This feature consists of a central macrophage (histiocyte, nurse cell) surrounded by one or more concentric rings of maturing erythroblasts. The central macrophage has abundant cytoplasm with many pseudopodia containing one or more rings of erythroblasts of the same stage of maturation (normally the erythroblasts are of the same maturation stage (figures 1 to 4), while in states of stressed erythropoiesis, the macrophage is surrounded by a ring of different stages of erythroblastic maturation and often contains vacuoles, probably representing the remnant of phagocytosed red cells (figures 5, 6). The pseudopodia of

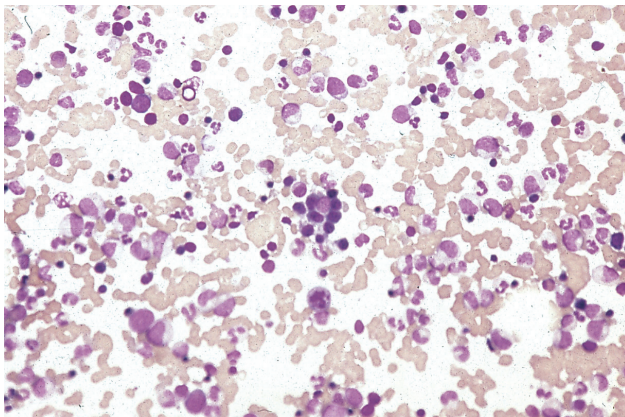


Figure 1

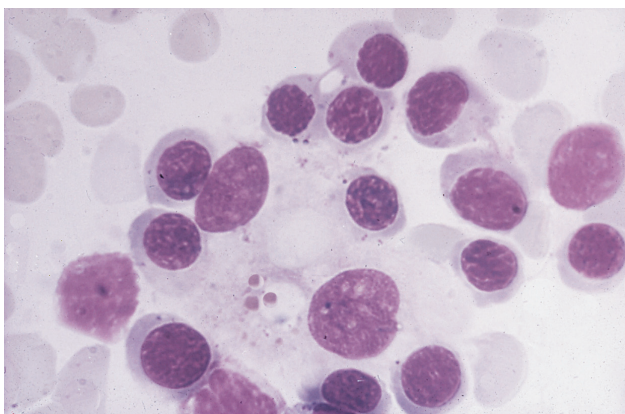


Figure 2

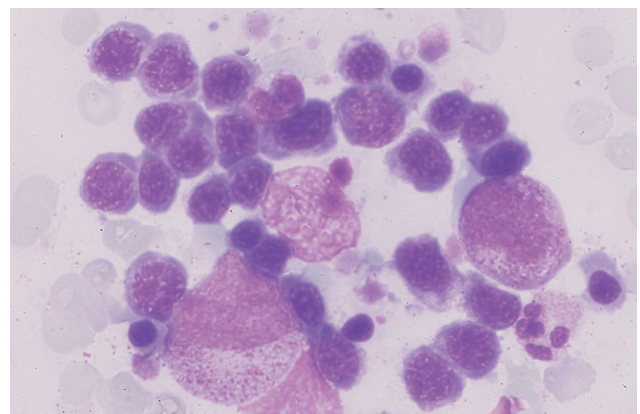


Figure 3

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ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2019, 36(5):713–714

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**J.V. Asimakopoulos,  
L. Papageorgiou,  
C. Chatzidimitriou,  
P.M. Arapaki,  
M. Belia,  
E.F. Triantafyllou,  
E. Konstantinou,  
M. Efstathopoulou,  
D. Galopoulos,  
E. Pliakou,  
J. Drandakis,  
E. Sinni,  
P. Tsafaridis,  
E. Plata,  
T.P. Vassilakopoulos,  
M.K. Angelopoulou,  
K. Konstantopoulos,  
J. Meletis**

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

the central macrophage are often broken during bone marrow aspiration and film preparation (in Prussian blue staining they contain few or numerous ferric granules) (fig. 7). The central macrophage plays an active role in maturation and function of

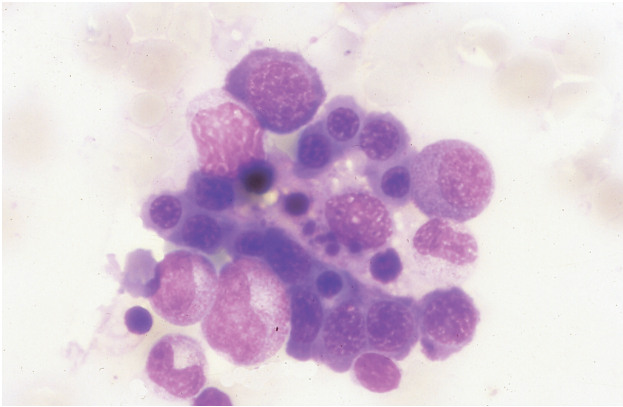


Figure 4

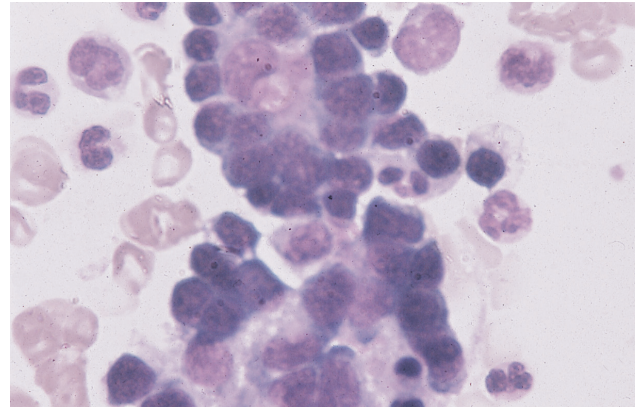


Figure 6

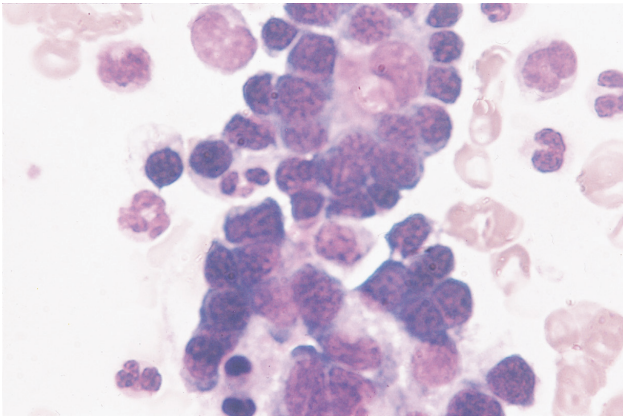


Figure 5

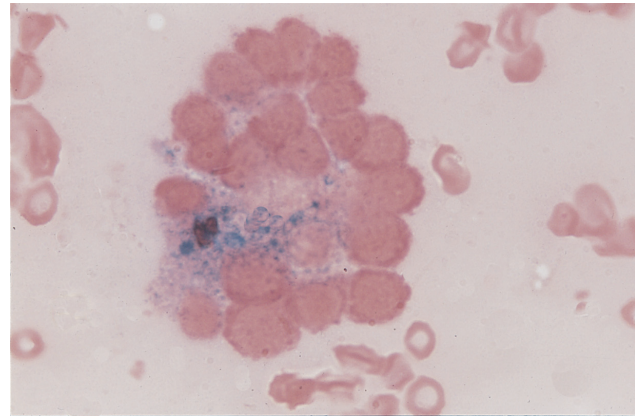


Figure 7

the different stages of the life of erythroblasts, supplying ferum, nutrients or other substances during their maturation. It phagocytoses the extruded nuclei and erythrocytes at the end of their life span, as well as the apoptotic cells. Erythroblastic islands are rarely seen in bone marrow smears (more frequently in erythroid series hyperplasia as in hemolytic anemias), while they are easily visible in bone marrow biopsy.

## References

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

### Corresponding author:

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