Unusual Clasmatosis Morphology

La Gioia A. et al: Clasmatosis

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Clasmatosis refers to cytoplasmic fragments in the peripheral blood (PB) or bone marrow [1, 2]. We describe a clasmatosis of unusual morphology in the PB of an 83-year-old male with primary myelofibrosis diagnosed two years earlier according to the WHO criteria: megakaryocytic atypical hyperproliferation, JAK2 V617F positivity, absence of WHO criteria for other myeloid neoplasms, anaemia, and splenomegaly [3].

PB review showed RBCs anisopoichilocytosis, dysplastic neutrophilia (23.0x10⁹/L), and immature granulocytes (2.4x10⁹/L). Bone marrow aspiration gave “punctio sicca.” Blast cells, NRBC, and micromegakaryocytes/megakaryoblasts were also observed (Figure 1A). Clasmatosis morphology displayed regular or irregular contours (Figure 1B) and giant forms without or with internal granules (Figure 1C), sometimes indistinguishable from giant platelets (Figure 1B/C).

Small-medium clasmatosis originates from cytoplasmic budding and fragmentation (Figure 1D). Also, clasmatosis occurred after nuclear extrusion happened with the sequence in Figure 1E: i) beginning of the nuclear exit from the cellular boundary, ii) detachment from the last cytoplasmic ribbon, and iii) complete exit. Afterward, various cellular remnants can be observed: naked nuclei, demucleated cytoplasm, sometimes containing negative mold of the pre-existing nucleus, Cabot-like rings, and chromatin fragments. Entire cytoplasm or fragments have been observed retaining - after nuclear detachment - the content of previous phagocytosis (Figure 1E).
Keywords: Clasmatosis; Primary Myelofibrosis; Peripheral Blood review

Author’ Contribution
Antonio La Gioia and Fabiana Fiorini performed light microscopy, Miriam Marsano has discovered the case, selected the images, and revised the text.

References