

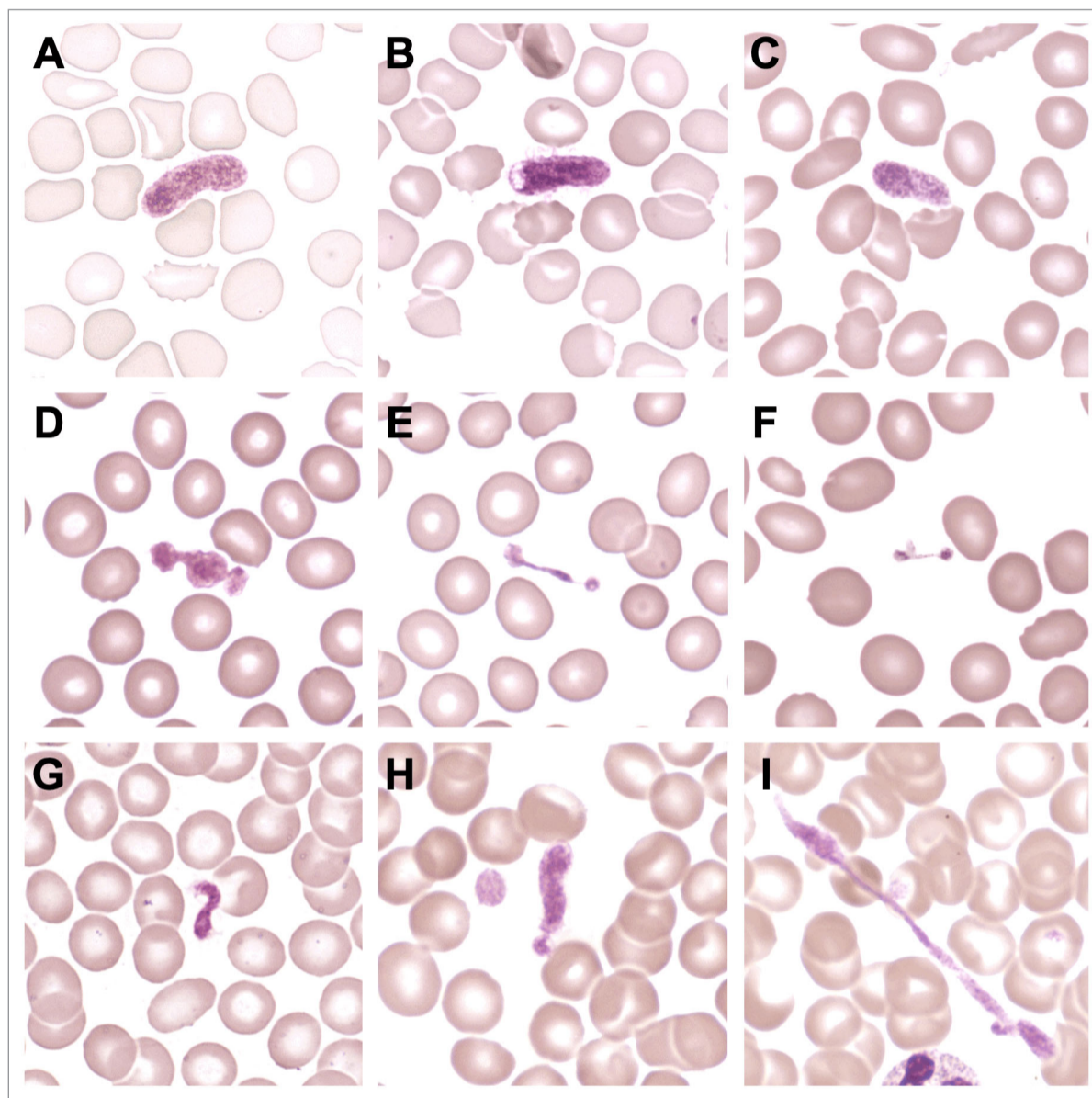
Images from the Haematologica Atlas of Hematologic Cytology: abnormalities of platelet shape

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One of the mechanisms by which megakaryocytes release platelets is the formation of long, thin cytoplasmic extensions that are released into the circulation and eventually transformed into individual platelets. *In vitro* studies suggested that platelet biogenesis requires the formation of preplatelets (discoid or sausage-shaped giant elements) that have the capacity to convert into barbell-shaped proplatelets and undergo fission into platelets. Although no systematic study has been performed so far, personal experience indicates that preplatelets and proplatelets are nearly never identified in peripheral blood films from healthy subjects, while they are sometimes observed in those from individuals with some forms of inherited thrombocytopenia and in conditions with accelerated platelet turnover, such as immune thrombocytopenia and thrombotic microangiopathies. The images above are blood films from members of a family with *ACTN1*-related thrombocytopenia. The elongated elements in A-C recall preplatelets, while the barbell-shaped or elongated elements in D-I recall proplatelets.¹

Disclosures

No conflicts of interest to disclose.

References

1. Balduini CL, Pecci A. Inherited thrombocytopenias. *Haematologica*. 2020;105(Suppl 1):237-247.