CORRESPONDENCE

Lymphocytic Platelet Satellitism

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To the Editor,

We read with interest the recent report of Indranil Chakrabarti on platelet satellitism around polymorphonuclear leucocytes [1]. Even though it is a rare event as noted by the author, over thirty cases of neutrophilic platelet satellitism have been reported in the literature. By contrast, platelet satellitism around lymphocytes has rarely been mentioned in the literature. Therefore, we would like to take this opportunity to report our recent finding of lymphocytic platelet satellitism.

A 76-year-old Hispanic man was evaluated for mild relative monocytosis without any other hematologic abnormalities. Examination of the peripheral blood smear revealed platelets rosetting lymphocytes with some platelets seemingly within the cytoplasm of lymphocytes (emperipolesis, which refers to the presence of an intact cell within the cytoplasm of another cell) (Fig. 1). Neither platelet aggregates nor satellitism around neutrophils was seen (inset). Smears prepared from the finger-prick blood sample did not show platelet satellitism. His white blood cell count was $8.8 \times 10^9/L$, hemoglobin 13.6 g/dL, and platelet count $150 \times 10^9/L$. Because the finger-prick smear demonstrated clearance of platelet satellitism, we assumed that the phenomenon was solely related to the anticoagulant ethylenediaminetetraacetic acid (EDTA). Platelet count in heparin or sodium citrate container or antiplatelet antibodies were not performed.

There have been previous reports of platelet satellitism around neoplastic lymphoid cells and large granular

lymphocytes [2–4]. In our patient, small to medium-sized normal lymphocytes were involved in both platelet satellitism and possible emperipolesis. The underlying mechanism is likely related to EDTA, antiplatelet antibodies, and activation of platelets rich in thrombospondin or some other cytoadhesive platelet α -granule proteins.

Fig. 1 Peripheral blood smear showing platelets rosetting a lymphocyte with some platelets seemingly within the cytoplasm of the lymphocyte (emperipolesis). Neither platelet clumps nor satellitism around neutrophils was seen (inset). (Wright Giemsa stain; $\times 1,000$ original magnification)

Conflict of interest None.

References

1. Chakrabarti I (2014) Platelet satellitism: a rare, interesting, in vitro phenomenon. Indian J hematol blood Transfus 30(3):213–214

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2. Cesca C, Ben-Ezra J, Riley RS (2001) Platelet satellitism as presenting finding in mantle cell lymphoma. A case report. *Am J Clin Pathol* 115(4):567–570
3. Espanol I, Muniz-Diaz E, Domingo-Claros A (2000) The irreplaceable image: platelet satellitism to granulated lymphocytes. *Haematologica* 85(12):1322
4. Latger-Cannard V, Debourgogne A, Montagne K, Plenat F, Lecompte T (2009) Platelet satellitism and lympho-agglutination as presenting finding in marginal zone B-cell lymphoma. *Eur J Haematol* 83(1):81–82