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Is platelet satellitism an infrequent phenomenon?

Carta al Editor

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Platelet satellitism is described as an infrequent finding characterized by formation of platelet rosettes around polymorphonuclear (PMN) leucocytes, which are seen in Wright-stained peripheral blood smears prepared from EDTA-anticoagulated blood samples, but not seen when others anticoagulants such as heparin, acid-citrate dextrose, or citrate, are used. The mechanism of this platelet adhesion to PMN is not understood, but there is evidence that autoantibodies directed to the glycoprotein IIb/IIIa complex of the platelet membrane, as well against the neutrophil Fc gamma receptor, are involved (1). It is possible that the epitopes for those antibodies are usually hidden in leukocyte and platelet membranes and that membrane changes induced by EDTA expose them; which would explain why satellitism is observed exclusively in blood anticoagulant with EDTA.

There are few citations about platelet satellitism in the medical literature. Two recent reports address this issue. The first includes an ultrastructural analysis of blood from a patient that presented

pseudothrombocytopenia due to leucocyte phagocytosis of platelets (2). The other documents refer to platelet satellitism around mantle cell lymphocytes, in the first observation of these cells (3). Three cases of platelet satellitism were published in Costa Rica, and all of them presented the typical findings described for this phenomenon, namely platelets associated with PMN forming rosettes. The first report describes two cases: a young woman and a 12-year-old boy. Neither had any clinical symptoms/signs and it was observed during a routine analysis (4).

The third case was a 21-year-old man, also asymptomatic, and was detected in a routine blood analysis. In this case, a second peripheral blood sample was collected in EDTA and kept at room temperature for 12 hours and smears were made every one to two hours during that period (5). Platelet satellitism increased in the smears made from 2 to 6 hours, until more than 90% of the PMN were seen forming rosettes with platelets. Frequency of rosette formation decreased to 50% thereafter, showing that the

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phenomenon is time dependent.

There are only about 100 cases described in the literature concerning platelet satellitism. The finding of three cases in Costa Rica, a country with less than 4 million inhabitants, over a short time, suggests that this phenomenon could be much more frequent, but may have been thought of as an anecdotal observation and not been reported.

Key words: platelet satellitism.

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