

CASE REPORT

Spurious High Platelet Count without PLT Flag(S) in a Patient with Severe Aplastic Anaemia

Luyun Peng^{1,2}, Rui Shi^{1,2}, Feng Lu^{1,2}, Ge Zhang^{1,2}

¹ Department of Laboratory Medicine, West China Second University Hospital, Sichuan University, Chengdu, China

² Key Laboratory of Birth Defects and Related Diseases of Women and Children, Sichuan University, Ministry of Education, Chengdu, China

SUMMARY

Background: Platelet (PLT) count is one of the most important parameters of automated hematology, as spurious PLT reports could affect medical judgement and bring significant risks. In most cases, spurious PLT will not be reported for review criteria, which will be triggered by abnormal PLT histograms and PLT flag(s). Here, we present a case of severe aplastic anemia after hematopoietic stem cell transplantation with spurious high platelet count with normal histogram and no PLT flag(s).

Methods: The electrical impedance channel (PLT-I) and the fluorescence channel (PLT-F) of Sysmex XN-series hematology analyzer was used to obtain PLT results. Then, the sample was retested by another hematology analyzer MINDRAY BC-7500 [NR] CRP, and incubation was performed to rule out cryoglobulin interference. Furthermore, a microscope was used to estimate the PLT count by the ratio of platelets to red blood cells and observe the morphology of cells.

Results: Both PLT-I and PLT-F test results were spuriously high, and microscopically assessed platelet counts were relatively reliable. The observed spiny cells and ghost cells caused by hemolysis may have contributed to the inaccuracy of instrumental counting in this case.

Conclusions: For special hematologic patients, PLT-I with flags may not be sufficient for screening purposes and PLT-F is not always accurate. Multiple testing methods including manual microscopy are needed.

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Correspondence:

Feng Lu and Ge Zhang
Department of Laboratory Medicine West China
Second University Hospital Sichuan University
No. 20, Section 3
Ren Min Nan Lu
Chengdu, Sichuan 610041
P.R. China
Email Feng Lu: 18610547@qq.com
Email Ge Zhang: pigeon99@163.com

Supplementary Data

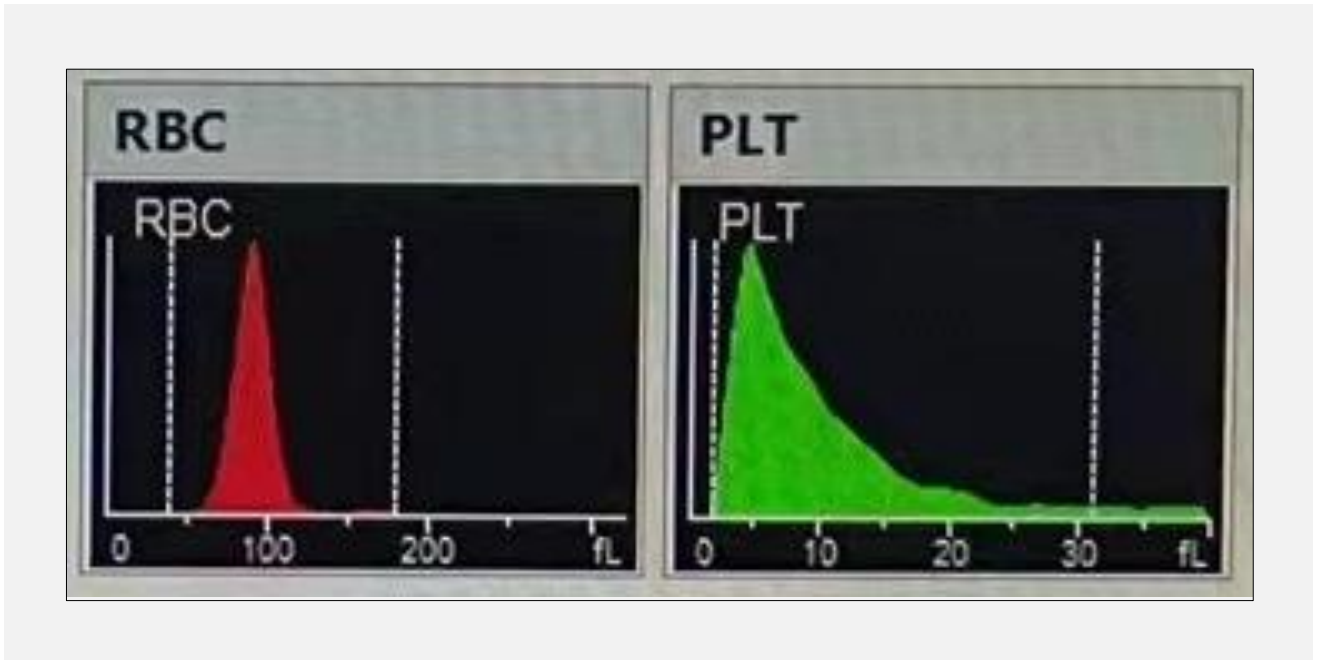


Figure S1. Normal histogram with no PLT Flag(s) on MINDRAY BC-7500 [NR] CRP.