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# Case Report

## Pseudo Pseudothrombocytopenia

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### Abstract

*An 82 year old Caucasian male minister presented with thrombocytopenia and platelet clumping on the blood smear thought to have pseudo thrombocytopenia. However, the platelet clumping was due to delay in making the blood smear rather than clumping due to EDTA anticoagulant. This factitious or artificial platelet clumping (pseudo pseudothrombocytopenia) should not be confused with pseudo thrombocytopenia.*

An 82 year old Caucasian male minister was seen for thrombocytopenia (platelet count 85,000 cmm. The rest of the Complete Blood Count was normal). His past history revealed essential hypertension and coronary artery bypass X 4. His medications taken included Quinapril HCl, Cimetidine, Procainamide HCl and ASA.

Examination of the blood smear revealed numerous clumps of platelets. Pseudothrombocytopenia (PT) or drug induced thrombocytopenia was considered. A repeat platelet count with EDTA anticoagulant revealed a count of 101,000 cmm and with citrate anticoagulant a count of 101,000 cmm.

Blood smears from the EDTA and citrate anticoagulant blood revealed no platelet clumping.

A blood smear made from the patient's freshly drawn venipuncture revealed no platelet clumping.

A blood smear made from the patient after allowing the drop on the slide to sit 3 minutes delay revealed striking platelet clumping.

### Discussion

Pseudothrombocytopenia (PT) is a laboratory-induced artifact where an unknown serum factor in normal or ill patients reacts with the EDTA anticoagulant used to collect blood resulting in platelet clumping.<sup>1</sup> Spurious low platelet counts by electronic Coulter machine results. Examination of the blood EDTA collected blood reveals clumping of platelets. If citrate or oxalate is substituted for EDTA, platelet clumping is not seen and normal platelet counts are seen.

In this case report, platelet clumping was not seen with the EDTA anticoagulant, as would be found in PT and PT was thus excluded.

It was observed that simple delay of 3 minutes in making the blood smear from freshly drawn venipuncture blood revealed marked platelet clumping.

In the patient reported, PT was excluded, The most likely cause for this thrombocytopenia was his medications.

Clinicians should be aware of this laboratory-induced factitious platelet clumping due to a delay in making a blood smear.

### Reference

1. Williams, W.J., Beutler, E., Erslev, A.J. and Lichtman, M.A.: Pseudo thrombocytopenia, (3<sup>rd</sup> Edition) 1983: 1290.

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