

# Pseudothrombocytopenia in Asymptomatic Outdoor Patients Presenting with Low Platelet Counts

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**ABSTRACT Background:** Pseudothrombocytopenia is spuriously low platelet count seen in complete blood count performed on an automated hematology analyzer. It may lead to unnecessary investigations & management. It has been postulated to be caused by an anticoagulant namely Ethylene-Diamine-Tetra Acetic-Acid (EDTA) and has been reported in physiological as well as disease conditions with variable frequency. No significant research has been done on this important clinical entity in our country.

**Objective:** To see the prevalence of pseudothrombocytopenia in our settings.

**Methods:** EDTA based hematology analyzer method was used as the initial test for blood counts. Patients showing thrombocytopenia were screened for pseudothrombocytopenia by Giemsa stained blood film examination. Those with platelet aggregates were labeled as pseudothrombocytopenia and were studied further by doing manual platelet count (ammonium oxalate method) and repeat automated platelet count on a citrate based fresh blood sample. Manual platelet count was also performed on blood samples not showing platelet aggregates, as a second security check, after which, those with low platelet count were labeled as true asymptomatic thrombocytopenia.

**Results:** Out of 385 patients, 30 revealed pseudothrombocytopenia, eight patients were male and 22 females, female to male ratio was 2.75:1. Ten patients were less than twenty five years old; 15 patients were 25 to 50 years and five patients aged more than 50 years. Mean age of the patients was  $32.7 \pm 16.5$  years. Machine generated blood report using EDTA blood, revealed platelet count  $<50 \times 10^3/\mu\text{l}$  in 16(53.4%),  $40-100 \times 10^3/\mu\text{l}$  in 12(40%) &  $100-149 \times 10^3/\mu\text{l}$  in 2 (6.7%) patients respectively. Mean platelet count was  $50 \pm 25 \times 10^3/\mu\text{l}$ . No patient had platelet count of  $>150 \times 10^3/\mu\text{l}$  by this method. Platelet count using sodium citrate revealed platelets  $>150 \times 10^3/\mu\text{l}$  in 25(83.4%) and  $100-149 \times 10^3/\mu\text{l}$  in 5(16.6%) patients. By manual method none of patients had platelets lower than  $150 \times 10^3/\mu\text{l}$ .