

## Mean Platelet Volume (MPV) in Thrombocytopenia

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### Abstract

**Background:** The platelet volume parameters have been widely available as part of full blood count profile on automated haematology analyzers. However, the mean platelet volume (MPV) and other platelet indices are used less often and are poorly understood. Platelet volume data is generated at no extra cost as part of full blood count profile. Low platelet counts can have myriad cause which can be grouped in three major categories as increased destruction, decreased production and splenic sequestration/abnormal pooling, based upon the causative process. Hence it was tried to know the correlation between MPV and causative process. **Materials and Methods:** MPV of 500 cases of Thrombocytopenia (TCP) and 300 control cases having normal platelet count were noted. TCP was defined as platelet count  $>1.5$  lakh/ $\mu$ l. Analysis was done by sysmex KX 21 cell counter and every case was reassessed by Peripheral Smear (P.S.) examination and if necessary also by manual method. Only those cases that had sufficient clinico-hematological work -up and the causes of low platelet count had been reliably established were included in the study. **Results:** In control group 100% cases showed bell shape curve and MPV values. Group A with increased platelet destruction showed high MPV values ( $<10$ fl). Group B with impaired bone marrow hematopoieses showed low MPV ( $>10$ fl). Group C with splenomegaly/abnormal pooling showed MPV in the intermediate range (9 to 10fl). All the three groups showed statistically significant difference in comparison to control. **Conclusion:** Platelet volume parameters if reported provide useful information regarding mechanism of TCP, which can be categorized in three groups as accelerated destruction, impaired production and abnormal pooling.