



A Short Communication on Haematocrit and Leukocytes with relevance to Thrombocytopaenia:

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ABSTRACT :

This study was undertaken to investigate the platelet critical value and amount of transfusion packs required in patients with thrombocytopenia. The study was conducted in Feb 2019 within the premises of Mahatma Gandhi Medical College and Research Institute

INTRODUCTION :

42 patients admitted in Mahatma Gandhi Medical College and Research Institute presented with common symptomatology of fever, occasional cough and mild breathlessness. These were put under scrutiny of a waived complete blood count and ELISA for Rickettsia tsutsugamushi IgG and Dengue NS1 with IgG antibodies. Those who tested positive had a IgM negativity of 100% (indicating this can be cancelled at investigation phase and that these cases were infected 14 days before secondary interval kept). Cough subsided with nocturnal periodicity.

These cases had leucopenia in cases of Dengue and leucocytosis in cases of Scrub Typhus. Both group of 60-40 percentage duality of cases showed thrombocytopaenia in the 20 to one lakh twenty thousand range. It was interesting to note that leucocyte count was always near normal in the Viral Hemorrhagic group excluding Typhus and Dengue.

The percentage of cases of Dengue who had normal thrombocyte count did not have rashes at initial presentation but showed evolution upwards from ankle with decreasing platelet count.

METHODOLOGY :

The patients were scrutinized by consecutive sampling and investigated for complete blood count, Dengue NS1 and IgG and ELISA for Scrub Typhus for IgG.

Results and Discussion :

Platelet crit value- The value of platelets that gives ecchymoses-goes such = Platelet count (eg: 60000) + (observed reticulocyte count - Expected Retic count)

For platelet count below 90000, arbitrary value of $60 * 1000$ may be fixed.

For platelet count above 90000, Platelet crit = $125 * 1000$ indicating that thousandth of this value (in litres) is held off by the blood vessels and this when treated with IV 0.9% Normal Saline and prevents further complications. (No cases reported)

PCV-deposition of RBC's to the Valsalva of the test tube with respect to platelet mass[(MCV/Platelet count/75)-2.5 to 4.25 being the normal value in adults weighing 70 to 75 kg]of such cases were low-"to the left" in normal leukocyte count.It was atypical to note that in Dengue high-"to the right" value for was found,mean value being 40%.With 40 as the reference range,it could be deduced that 4% alteration in PCV accounted for 1 Litre of "saline deficit" which was prevented with prompt therapy by the nursing staff.

The 'platelet mass resistant to bleedingthat is the remainder of the value of the platelet crit is the volume of Fresh Frozen Plasma/platelets required to be replenished i.e For example,1.2 litres or 4 into 300 ml of yellow cold packs(6-8 degree) for platelets below 60,000.

Platelet Count	Platelet Crit(cu.mm)	No of transfusion packs
60000-40000	60000	1.2 litres
39999-20001	90000	2 litres
Below 20000	125000	4 litres

