



No. 25 The Versatility of

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Title: **The Versatility of Platelets**

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One of the intriguing things when it comes to the platelet count is why a normal range is considered to be 150 to 400 (thousand million). This is especially so when any bleeding does not tend to occur unless the platelet count is well below 150 – in most situations, unless it goes less than 20 or 30. The likely explanation is the versatility of these important cells, which were originally considered as insignificant by being called ‘blood dust’.

Platelets are well-recognised to be important in stopping bleeding but what is not widely known is that they have several other functions including fighting infections, wound healing, helping the growth of blood vessels and acting as a messenger for several other blood cells. How is this relevant to ITP?

As individuals with ITP may recognise, their platelet counts tend to shift down when they get an infection, especially a viral infection (for eg; cold, flu). This is related to the protective ‘anti-infective’ function of the platelets which clump together to fight off the virus. Since the platelets bind to virus, the immune system which works against platelets may find the platelets attached to the viruses as ‘foreign’ objects and destroy them. This would explain the development of ITP in children who would have had a preceding viral illness. In contrast to viral infections, bacterial infections (eg; chest infections or urinary tract infections) tend to increase the platelet count (the bone marrow makes more platelets to fight the bacteria), something which has been noted by members at the support association meeting.

Platelets are also relevant in wound healing. For many surgical procedures, it is recommended that the platelet count is kept around 50. This is to allow these cells to help in healing and also in the new blood vessel growth, necessary at the site of surgical wound. Such a high platelet count is often necessary for a few days after surgery to allow good healing and prevent bleeding into the wound which may prevent this process.

One of the causes of secondary ITP (when ITP arises due to other conditions) is arthritis. In these conditions, the white blood cells play a crucial role in causing inflammation of the joints. In this regard, the white cells are very much helped by platelets in carrying some of the messages around in the blood and also for allowing them to get into the joints. In those who have arthritis-related ITP, it is often noted that a good control of the joint inflammation may improve their platelet count, despite not requiring any ITP-specific therapy.

In summary, the platelet count fluctuations which may be occasionally noted in ITP may well be explained this versatile nature of the platelets.