

## Mechanisms Involved in Thrombocytopenia

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Received date: September 3, 2021; Accepted date: September 16, 2021; Published date: September 23, 2021

Citation: Debras C (2021) Mechanisms Involved in Thrombocytopenia. Res J Oncol Vol.5 No.1: e002.

### Editorial Note

What is the most common cause of platelet counting? Causes Thrombocytopenia has many causes. One of the most common causes of low platelets is a condition called Immune Thrombocytopenia (ITP). You can hear it called from its ancient name, idiopathic thrombocytopenic purple. A high platelet count may mean an increased risk of blood clots, while a low platelet count can lead to various diseases. Genetic problems and defective antibodies can cause small clotting problems in the body, such as thrombotic thrombocytopenic purpura and Thrombotic Micro Angiopathies (TMA) or platelet damage, such as complement-mediated TMA. Thrombocytopenia caused by these specific conditions and other conditions is that the commonest and widespread of all platelet-related diseases. Thrombocytopenia is a medical term that describes low platelet counts. Platelets are one of our blood cells, and their role is to help us stop bleeding. Thrombocytopenia is defined as a platelet count below 150,000 cells/ml, regardless of your age.

Platelets are one of the main blood components and their main function is to prevent bleeding through blood clotting. These cell fragments are only a fifth the size of red blood cells and only a small part of the total volume of blood. Like most blood cells, platelets are made in the bone marrow. Megakaryocytes, the large cells of the bone marrow, break apart during development, causing the release of platelets into the blood. Platelets are made up of specific proteins that allow them to bind to each other and to the inner wall of blood vessels. When blood vessels break due to external or internal bleeding, they continue to secrete proteins to form a seal. It is important to maintain a healthy platelet range, because too high or too low a count can lead to serious medical conditions. To be effective, the number of platelets per microliter of blood in an adult must be between 150,000 and 450,000. A count below 150,000 indicates the presence of a serious condition called thrombocytopenia. Thrombocytopenia occurs when your body does not have enough platelets. Platelets are cells that help blood clot. Your body may not produce enough platelets, or it may destroy too many platelets. When the platelets decrease, the risk of bleeding increases, severe bleeding can be life-threatening. Performs a platelet count using blood tests to diagnose thrombocytopenia. This leads to fewer like dengue. The dengue virus is known to induce the overproduction of the aberrant activation and overproduction (IL6) which leads to improved production of anti-platelets and antinava1444 (not

structural Protein antigen) crossed antibodies with human platelets. However, none of the last results suggests any mechanism that can explain persistence of thrombocytopenia after dengue infections. The immune shipment of platelets in macrophages may not be the primary mechanism in this disease. Dengue is an infectious disease caused by the dengue virus (DENV). In general, Dengue is a self-limited acute feverish disease, in which patients can improve or progress in a serious way. The serious illness is characterized by hemodynamic disorders, increased vascular permeability, hypovolemic, hypotension and shock.

Thrombocytopenia and platelet dysfunction are common in both cases and are linked to the clinical result. The different mechanisms have been hypothesized to explain thrombocytopenia inconvenience, including bone marrow suppression and the peripheral destruction of platelets. Studies have shown debuted hematopoietic progenitors or bone marrow stromal cells. Furthermore, the antiplatelet antibodies will be involved in the destruction of peripheral plates, since the platelets interact with endothelial cells, immune cells and / or DENV. It is not yet clear if the platelets play a role in viral propagation. Here, we focus on thrombocytopenia mechanisms and platelet dysfunction in denv infection. Since platelets participate in the inflammatory and immune response, promoting the secretion of cytokines, chemokine's and inflammatory mediators, its relevance will be discussed as "cells of immune effects". Finally, there will also be an involvement for platelets in plasma loss, since thrombocytopenia is associated with the clinical result and greater mortality.

The defining characteristic of thrombocytopenia is the failure of the blood to clot normally. People with this disease bleed too much when cut and may accidentally bleed from the nose or gums. Brushing your teeth or blowing your nose can easily lead to bleeding. The amount of external bleeding is large, and you should seek immediate medical attention. Blood loss can be fatal, and uncontrollable bleeding can also indicate an underlying internal problem. Internal bleeding caused by thrombocytopenia in the brain and intestines can be fatal and usually causes serious symptoms, including: severe headache, blood in urine and vomiting, black stools with thick blood, dizziness and weakness and splenomegaly. The victim may also have irregular bruises and small red or purple spots on the skin called petechiae. It is also common to experience varying degrees of joint and muscle pain. A low platelet count occurs when the body cannot produce enough platelets and destroys

them before use or stores too many platelets in the spleen. Although genetic conditions can cause thrombocytopenia, there are usually underlying health conditions or lifestyle factors that can cause the problem

**Cancer:** Leukemia, lymphoma, and cancer that spread to the bone marrow slow down the production of platelets. Cancer treatments that do not target tumors, such as chemotherapy and radiotherapy, can also damage these cells.

**Virus:** Certain infectious viruses, such as chickenpox, mononucleosis, and rubella, can temporarily lower platelet counts.

**Aplastic anaemia:** Although rare, this bone marrow lobe hematopoietic disorder is very serious. **Drugs and alcohol:** Over-the-counter painkillers and certain antibiotics slow down the production of platelets when used, leading to drug-induced thrombocytopenia. Alcohol can have similar effects, but it can also cause liver cirrhosis, splenomegaly, and platelet accumulation.

**Autoimmune disease:** Immune thrombocytopenia (ITP) is a disease in which blood cannot clot normally. ITP is assumed to

be caused by the body's system accidentally attacking healthy cells, destroying platelets within the process.

**Pregnancy:** Although rare and relatively mild, platelets can be diluted when plasma levels rise in pregnant women.

People diagnosed with this condition can reduce the credible source of the risk of complications by,

Take care to avoid bumps and injuries that can cause bruising and cuts, Make sure all healthcare workers are aware of this condition because it affects the treatment decision, Be careful using over-the-counter (OTC) medications because many medications contain aspirin,

Some foods to avoid are: red meat, Saturated fats found in entire dairy products, Non-air oils, such as butter and margarine, Fruits that have natural effects with blood, such as tomatoes and berries (eating in limited quantities), Fast food and canned foods and Food for convenience found in boxes and frozen food corridor