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Editorial

BLOOD PLATELETS FUNCTION AND MATURATION

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Platelets, also referred to as thrombocytes, are blood cells liable for blood coagulation. Coagulation is a process that occurs when a patient's blood undergoes a blood coagulation. This process can prevent or cure blood loss. If a vessel wall becomes damaged, platelets will rush to the location of injury and form a plug or clot to prevent the bleeding. If platelet count is low (a condition called thrombocytopenia), the danger of uncontrolled or prolonged bleeding increases.

When there are too many platelets within the blood (a condition called thrombocytosis), it's going to cause abnormal irritable formation, which may be serious and life-threatening. Platelets are one among three kinds of blood cells (in addition to red blood cells and white blood cells) that originate within the bone marrow from cells referred to as megakaryocytes.

The process by which platelets form a clot is named adhesion.1 for instance, if you mistakenly cut your finger and rupture a blood cell, it'll start to bleed. so as to prevent the bleeding, platelets within that broken vessel adhere to the location of injury and passing chemical signals for more help. More platelets answer the decision and start to attach to every other to make a connect a process called aggregation. Once a plug or clot is made within the blood cell wall, the clotting (coagulation) cascade is activated, which then adds fibrin (a structural protein) to the clot to knit it together.

Platelets are active cells in the defense of host cells and the induction of tissue repair. They can also produce a variety of antimicrobial agents and contribute to the pathogenesis of chronic inflammation.

By making cell-cell contacts with leukocytes and endothelial cells, platelets assist white blood cells in rolling, arrest and transmigration. On stimulation by bacteria or thrombin, platelets release the content of their α-granules, which include an arsenal of bioactive peptides, such as CC-chemokines and CXC-chemokines and growth factors for endothelial cells, smooth muscle cells and fibroblasts.

Aside from maintaining the circulatory system's hemostasis, research has shown that platelets play a secondary role in the separation of the lymphatic and blood systems. They are activated by the interaction of lymphovenous endothelial cells with the blood vessels. This process, known as lymphovenous hemostasis, is regulated by the activation of the CLEC-2 receptor. A lymphovenous bypass or lymphovenular anastomosis involves the removal of a portion of the lymphatic system, which is known as a patent or residual lymphatic channel.

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The primary goal of this study is to identify the biological pathways that stimulate the production of platelets by megakaryocytes. Currently, the development of drugs that can directly stimulate the production of platelets is limited. To improve the management of thrombocytopenia, we will need to define the cell biological pathways that drive the production of platelets from megakaryocytes..

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