

PLATELETS AND ROLE OF PLATELETS IN HAEMOSTASIS

Platelet is small, spherical, non nucleated mass of protoplasm containing cells with diameter of 2-4micron.protoplasm contain mitochondria, granules, contractile elements and tubules, plant derived factor, ATP, histamine and serotonin.

Properties:

- Adhesiveness-property of sticking to rough surface
- Aggregation-grouping of platelets
- Agglutination-clumping together of platelets

Functions:

- Helps in vasoconstriction immediately after vascular injury
- Helps in primary haemostasis by forming platelet and accelerating the process of coagulation
- Help in clot retraction which is added by the contractile element in platelet
- Can engulf some bacteria and carbon particle
- Important role in inflammatory process by the release of platelet growth factor which helps in process of haemostasis, platelet store serotonin and histamine

Haemostasis:

Defined as arrest of bleeding or stoppage of bleeding

Event in haemostasis process:

- Immediate vasoconstriction
- Formation of platelet plug(primary haemostasis)
- Formation of clot (secondary haemostasis)

Vasoconstriction:

It takes place at the site of injury by vasospasm

Primary haemostasis:

This process begins within a few seconds after the injury, circulating platelets will come and adhere to this exposed collagen fibers in endothelial tissue. this binding is reinforced by vonwillebrand factor. the time between onset of bleeding and the primary haemostasis is called the bleeding time.

Secondary haemostasis:

Temporary plug are converted into a definitive clot by the deposition of fibrin. the formation of fibrin is by a process called clotting or coagulation

Mechanism:

