

LECTURE

TOPIC: COAGULATION &
FIBRINOLYSIS

LECTURER: PROF.W.O.MWANDA

Description

- **Haemostasis, the arrest of bleeding from an injured blood vessel, and destruction of clot within the blood vessel. Activity of vascular, platelet, and plasma factors counterbalance.**

Original Levels

1. Primary

- Blood vessel contraction and platelet Plug Formation

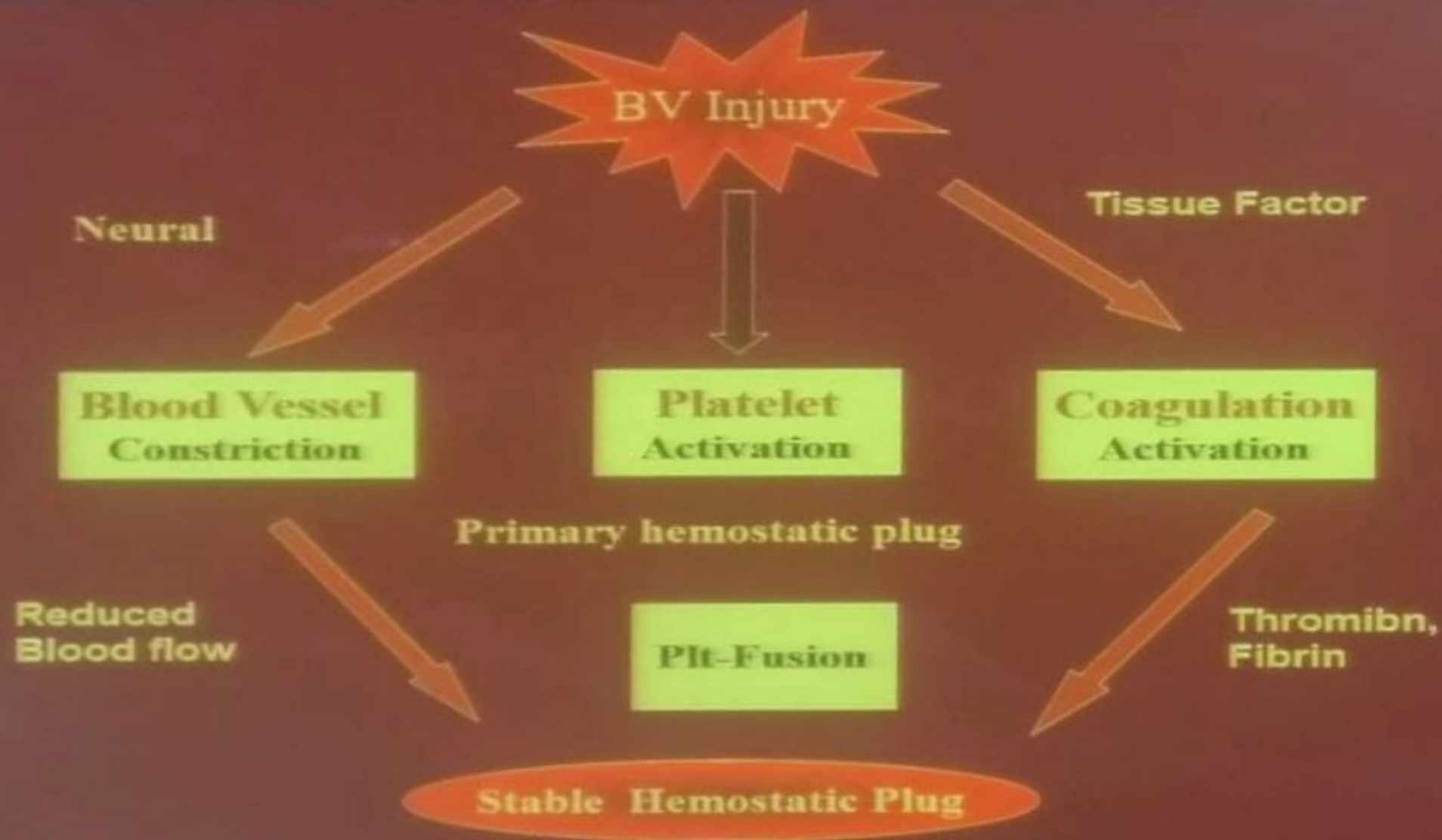
2. Secondary

- Activation of Clotting Cascade and deposition & Stabilization of Fibrin

3. Tertiary

- Dissolution of Fibrin Clot and dependent on Plasminogen Activation.

- 4. **Quaternary:** anticoagulant: Activation of natural anticoagulants



Major players

- Tissue
- vessel wall
- Platelets
- Coagulation
- Fibrinolysis
- Anticoagulation

Injury

Localized vasoconstriction

Platelet adhesion aggregation plug information

Activation of coagulation

Activation of fibrinolysis

Repair

Haemostatic process is carefully balanced

HAEMORRHAGE

THROMBOSIS



Secondary hemostasis

- Extrinsic pathway activated by tissue factor exposed at site of injury: in vitro by thromboplastin in the PT
- Intrinsic pathway is initiated when blood exposed to a negatively charged surface (eg celite, kaolin, or silica in the aPTT in vitro)
- Both converge to activate factor X, a component of prothrombinase that converts prothrombin to thrombin- the final enzyme of the cascade.

Coagulation system



Fibrinolytic system

