



Department of Anesthesia Techniques



BLEEDING AND CLOTTING TIME

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2nd course

Lec.3

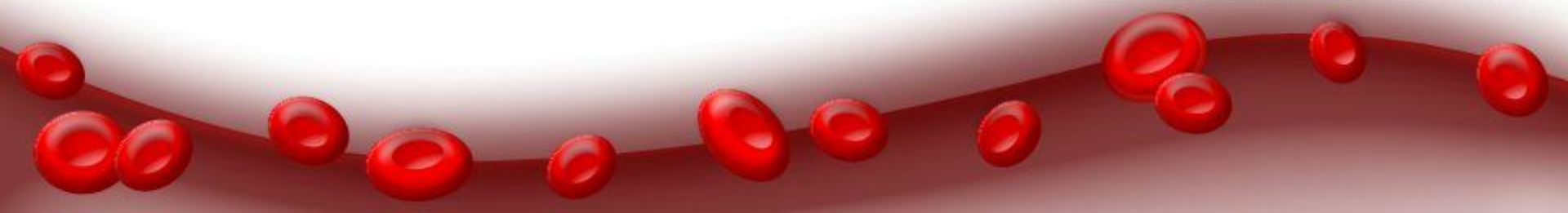
- **Bleeding** : means loss of blood from damaged or injured small vessels.
- **Hemostasis** : is the process of forming clots in the wall of an injured blood vessel to prevent blood loss.
- **This process has three main events :**
 1. Vascular spasms
 2. Platelet plug formation.
 3. Formation of a blood clot.

- **Bleeding Time** : is the time taken from the onset of wound until bleeding cease. **OR**
- **Bleeding time** is the time interval between the skin puncture and the cessation of bleeding.
- Measured in minutes.
- **Significance:** This test measures the capillary wall and platelets functions in hemostasis.
- **Normal value 1–5 minutes.**
- **The factors which affect the bleeding time are:**
 1. Size and nature of the injury
 2. Condition of the vessel wall.
 3. Number of platelets.

➤ Procedure of Bleeding Time

- Clean the lobe of the ear or tip of finger with alcohol and let dry.
- Puncture of the ear lobe or finger tip using lancet.
- For ear lobe, glass slide is place behind the ear lobe.
- While for finger tip, filter paper is using.
- Start the stopwatch at the moment of the puncture.
- Blot the blood with filter paper every 30 second move the filter paper after each drop of blood touches into clean area.
- When filter paper no longer shows signs of blood stop the stopwatch and record the time.

Bleeding Time



• **Conditions where Bleeding Time is Prolonged:**

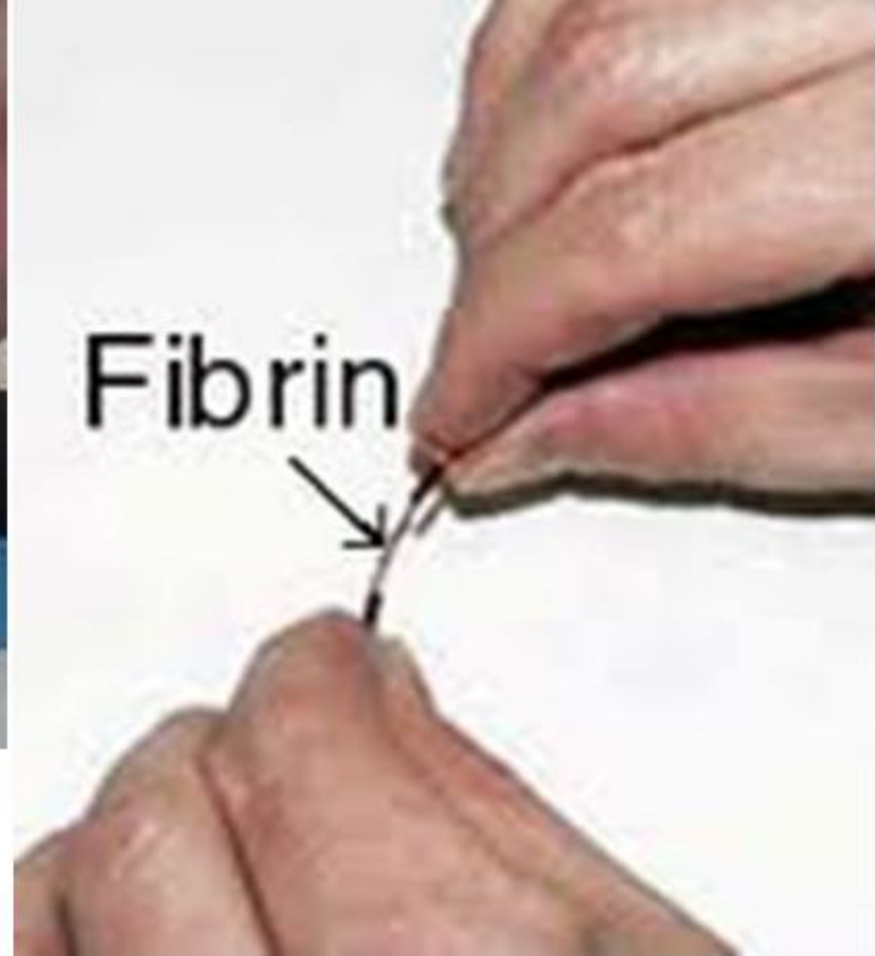
1. Decrease in the number of platelets
(Thrombocytopenia).
2. Functional platelet defect that could be due to Drugs like aspirin, or von Willebrand's disease.
3. Vessel wall defects as in prolonged treatment with corticosteroids and vitamin C deficiency.

Clotting Time

- Clotting time is the time interval between the skin puncture and formation of fibrin thread.
- Significance: The clotting time is generally not affected by deficiency of platelets.
- This test assesses the intrinsic and common pathways of coagulation.
- **Normal value for clotting time is (5-10 minutes)**

• The Procedure of Measuring Clotting Time:

1. Clean tip of finger with alcohol and let dry and puncture the finger tip using lancet.
2. Squeeze the finger to obtain a large drop of blood and fill the capillary tube with blood.
3. The capillary tube are sealed with clay and immersed in water bath at 37 c° .
4. After one minute start breaking small pieces of the capillary tube every 30 second slowly and gently ;until a fibrin thread is seen between the two broken end.



• **Conditions where clotting time is prolonged:**

1. Hemophilia
2. Afibrinogenemia.
3. Vitamin K deficiency
4. Liver disease
5. Anticoagulant drugs such as warfarin.