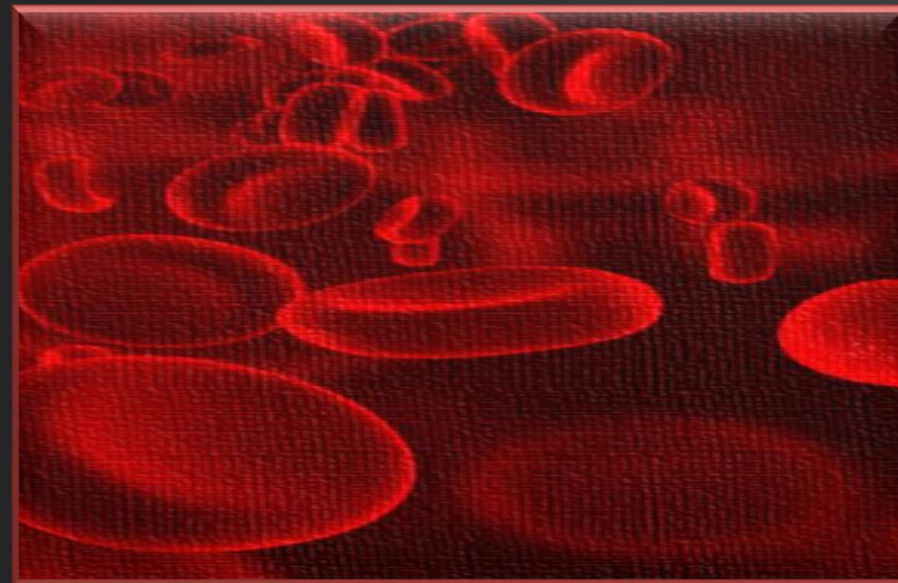
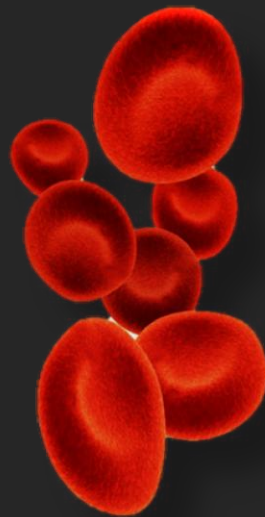


# IMPORTANT NOTES

## HAEMATOLOGY BLOCK



**DONE BY:**

**Mohammed A Alghammas**

# Physiology revision

- All notes in this work were mentioned by the doctor as imp points which may come in the exam as **MCQs**
- Every single letter is very imp..
- Each note begins with a number
- 1<sup>st</sup> lecture has 3 notes, 2<sup>nd</sup> and 3<sup>rd</sup> lectures have 10 notes.
- I hope you will find this work helpful

Have a **Fantastic** vacation ( مقدماً ) : )

## Lecture1: Reticuloendothelial System (RES)& Spleen

1-Reticuloendothelial system is an older term for the **mononuclear phagocyte system**.

2- Macrophages are Often remain **fixed** to their organs.

3- Macrophage differ depending on the organs in which they reside.

**A-Kupffer cells the liver.**

**B-Microglia in the brain.**

**C-Reticular cells in the lymph nodes, bone marrow, spleen.**

**D-Tissue histiocytes (fixed macrophages) in subcutaneous tissues.**

**G-Alveolar cells inthe lungs.**

In note n.3: The most imp one is Kupffer cells which is found in liver !

### Lecture2: Platelet Structure & Function

1-Regulation of thrombopoiesis by **Thrombopoietin**

2-Thrombocytes are **anuclear**

3- **α Granules** contains:

A-von Willebrand Factor

B-Fibrinogen

C-Chemokines (PF4,etc.)

D-Thrombospondin

E-P-selectin

4-Dense Granules contains

A-ADP/ATP

B-Calcium

**C-Serotonin**



( Serotonin is the most imp one, I think the q will be about it)

e.g on MCQ

All of the following can be found in **α Granules**, except:

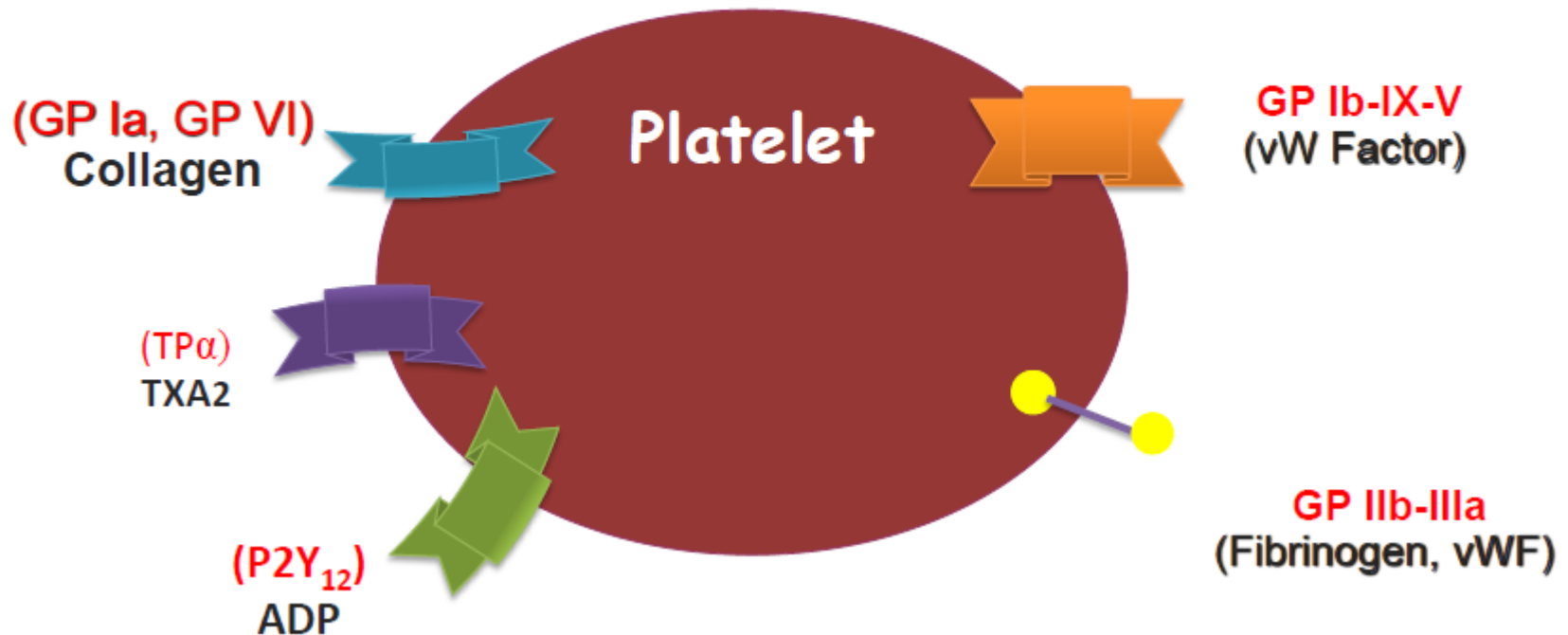
A-von Willebrand Factor

B-Fibrinogen

C- Thrombospondin

D- Serotonin

5-All of those receptors are imp but the most imp one is  
**GP IIB-IIa ( Fibrinogen, vWF )**



6- **Fibrinogen** is needed to join platelets to each other (Aggregation) via platelet fibrinogen receptors

(يعني لو جاء سؤال مين اللي نحتاجه لتجمع الصفائح يكون الجواب فبرينوجين)

7- **Thromboxane A2 (TXA2)** is a prostaglandin formed from arachidonic acid by COX-1

8- **ADP causes stickiness** and enhances aggregation

9- Bernard-Soulier Syndrome: **loss of GP Ib-IX-V restores**

10- Glanzmann thrombosthenia: **loss of GP IIb-IIIa receptors**

## Lecture3: Coagulation Mechanisms

- 1-**TF** is the only factor that not present in the blood, it can be found in the **wall of blood vessels**, once the injury happens = > Go immediately to the blood
- 2- Extrinsic pathway takes (12-16 sec) while intrinsic pathway (3-6 mins)
- 3-Thrombin activates factor **V, VIII, XIII**
- 4-**Any rough surface + XII**= XII activated (e.g Collagen is rough surface)
- 5-**Fibrinolysis** occurs by enzyme called **plasmin**
- 6-Activation of plasmin occurs by **Tissue Plasminogen Activator (t-PA)** or by drugs which has the same action of t-PA (**Urokinase and Streptokinase**)
- 7-What is the MOA of **Heparin**? It combines with **Antithrombin III** and quickly removes thrombin from blood
- 8-**Warfarin**, competitive with vitamin K, so it decrease **factors II, VII, IX, X**
- 9-Factor VIII deficiency = hemophilia A
- 10-Factor IX deficiency = hemophilia B

**THE END**

**If there are any Problems or Suggestions,  
Feel free to contact us:**

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**THANK YOU**



**IF YOU WANT TO SHARE ANY INFORMATION REGARDING PHYSIOLOGY OR  
ANY OTHER SUBJECT .. YOU CAN MENTION THIS ACCOUNT @MED432**

**Actions Speak Louder Than Words**