

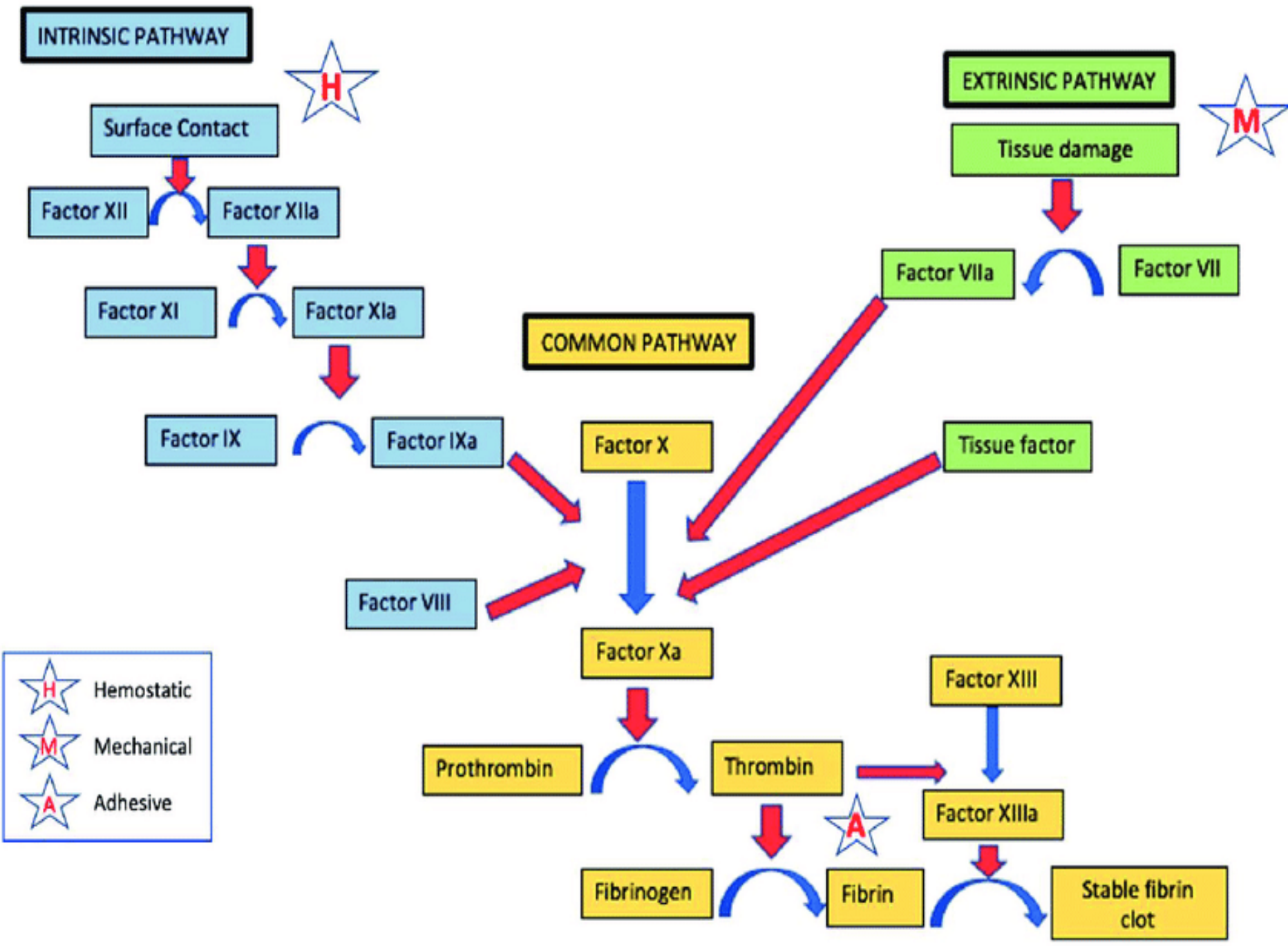
**Anticoagulation**

**Drugs Used in**

**Blood**

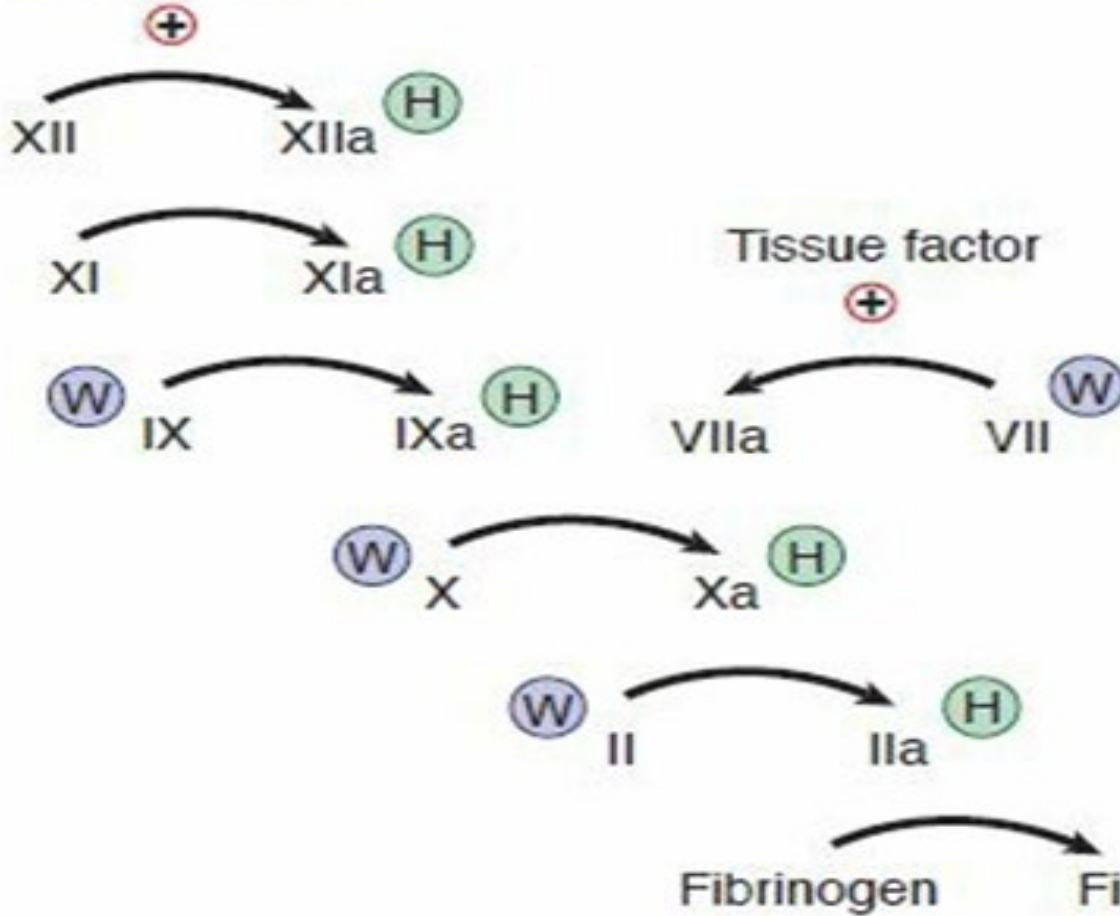
**Disorders**

*Ass. Prof. Dr. Abdulameer Ismail*



# Clotting Cascade Actions of Blood Drugs

Collagen kinins

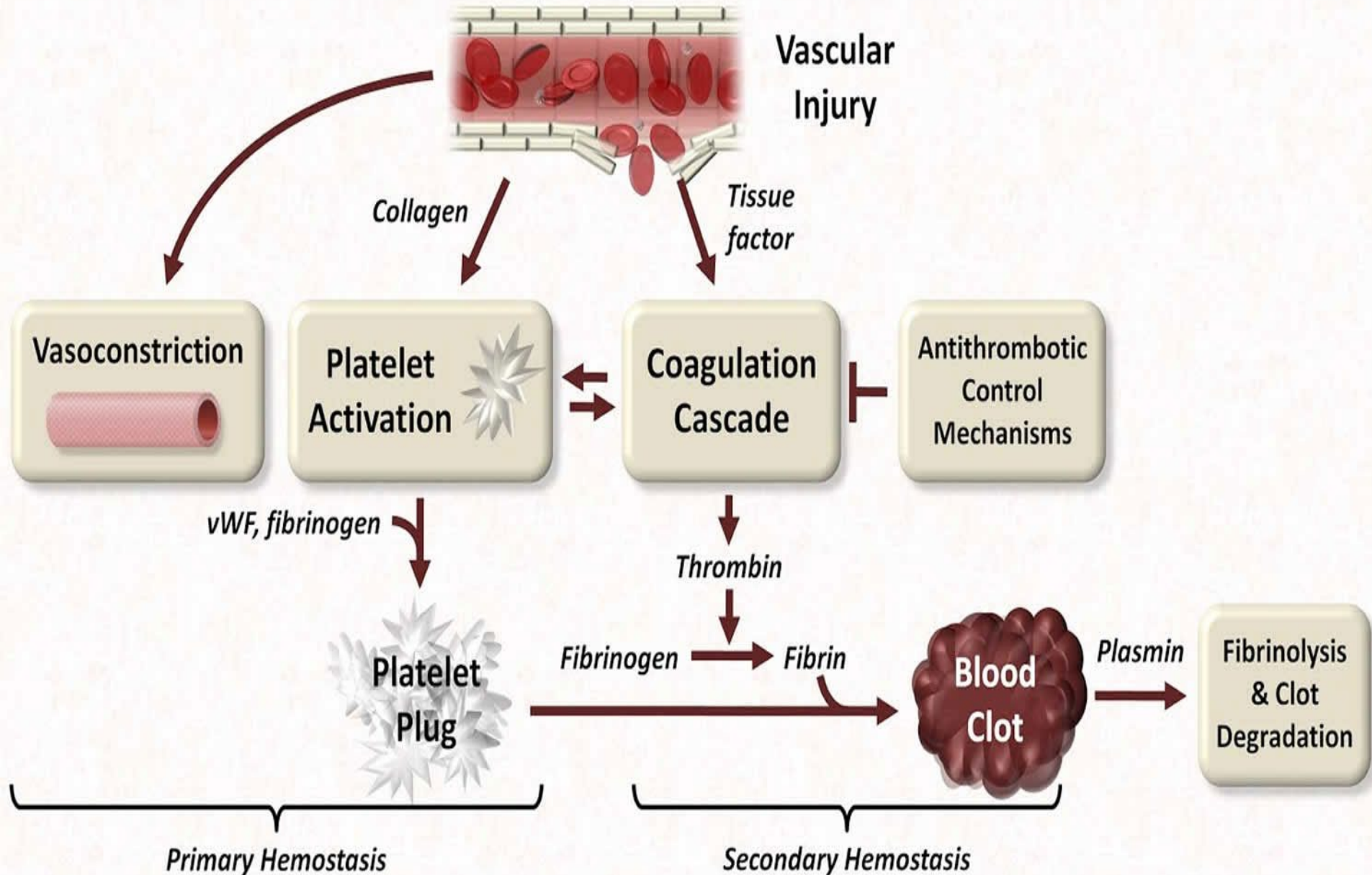


**H** = **-** by heparins

**W** = synthesis inhibited by warfarin

**Plasminogen** → **Plasmin**  
(activated by streptokinase and alteplase)

# Major Components of Hemostasis

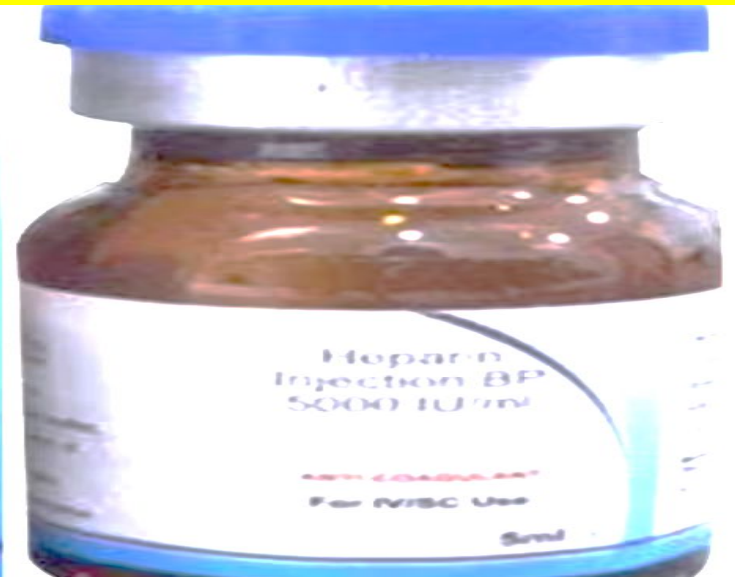


- **Unfractionated Heparin (UFH)**: These include heparin, which inactivates various clotting factors.
- **UFH** onset of action is rapid and has a short half-life.
- **UFH** can be monitored using activated **partial thromboplastin (aPTT)**, activated clotting time, and anti-factor 10a activity.
- The recommended target ratio of aPTT is 1.5 to 2.2 times the patients' aPTT.

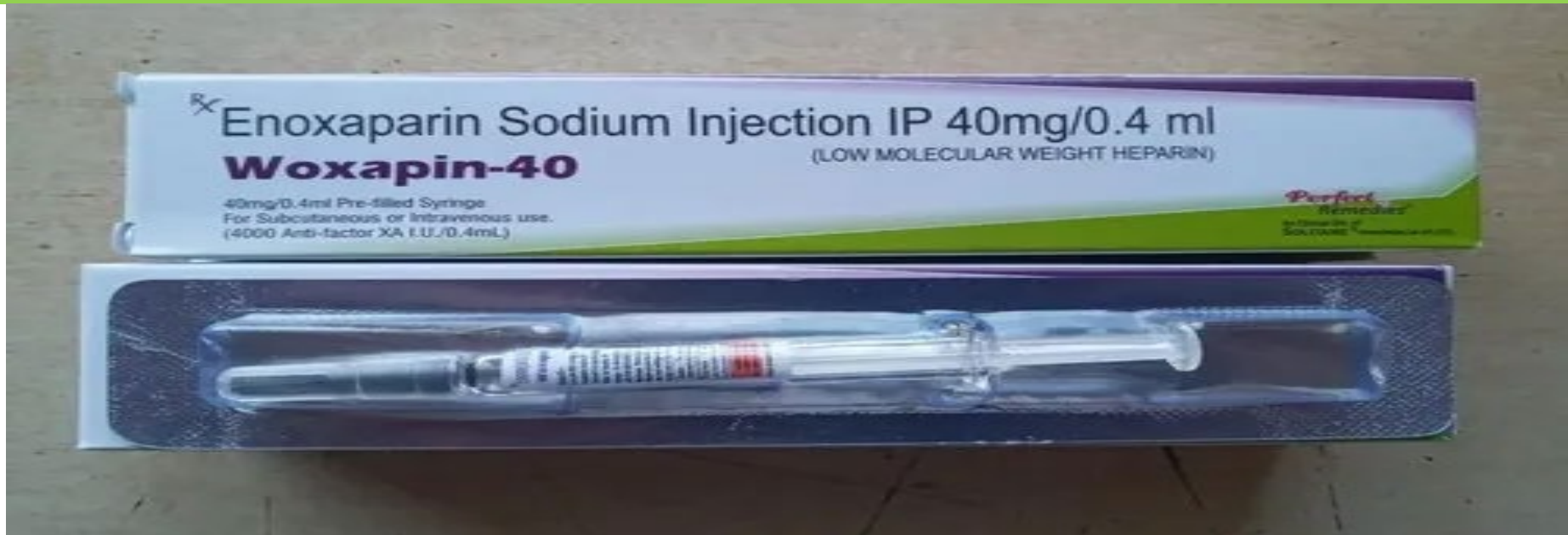
Heparin  
Injection BP  
5000 IU/ml

**ANTI-COAGULANT**  
For IV/SC Use

5ml



- **Low Molecular Weight Heparin (LMWH):** These are **enoxaparin**, dalteparin, tinzaparin, and nadroparin,
- which have a longer length of action.
  - long half-life, and can be
  - monitored using anti-factor 10a activity.
  - However, monitoring is not indicated except in certain conditions like pregnancy and renal failure.



## ➤ Vitamin K Dependent Antagonists (VKA):

- **Warfarin** is one of the most common anticoagulants available.
- It acts by inhibiting vitamin K
- It has a narrow therapeutic window of dosing.
- It requires frequent monitoring with an **international normalized ratio (INR)**, which is a measure of how long it takes blood to clot.



# Non-Vitamin K Antagonist

# Oral Anti Coagulants NOACs

Direct Thrombin Inhibitors:

Dabigatran

Factor Xa Inhibitors:

Rivaroxaban, apixaban, edoxaban





# **Indications for Anticoagulation: :**

- 1. Acute Myocardial Infarction (AMI)**
- 2. Left Ventricular (LV) Thrombus.**
- 3. Atrial Fibrillation**
- 4. Left Ventricular Aneurysm**
- 5. Prosthetic Heart Valve**
- 6. Venous Thromboembolism Treatment**
- 7. Venous Thromboembolism Prophylaxis**
- 8. Treatment of Venous Thromboembolism in Patients with Cancer**
- 9. Heparin-Induced Thrombocytopenia:**
- 10. Pregnancy**

# Nursing, Interprofessional Team Monitoring

- . Monitoring **haemoglobin** serially
- . Monitoring **heart rate and blood pressure**, and electrocardiogram
- . Administering blood products if indicated
- . Monitor for **indicators of internal bleeding** like back, joint, or flank pain
- . Monitor for dark or **smoky-coloured urine**
- . Minimize unnecessary intravenous line placement or **venipuncture**

**THANKS**



