

# Department of anesthesia

Practical pharmacology

**Dr. zaidoon abd alwahab altahan**

**Blood disorder**

[Altahanzaidoon@gmail.com](mailto:Altahanzaidoon@gmail.com)

# Blood disorder

1. Thrombosis: acute myocardial infarction (MI), deep vein thrombosis (DVT), pulmonary embolism (PE) and acute ischemic stroke
2. Bleeding : include hemophilia
3. Anemia : iron deficiency, folic acid and B12

# THROMBUS VERSUS EMBOLUS

- **Platelet Aggregation Inhibitors:**

decrease the formation of a platelet-rich clot or decrease the action of chemical signals that promote platelet aggregation.

1. Aspirin



- **Clopidogrel** : Clopidogrel is approved for prevention of atherosclerotic events in patients with a recent MI or stroke and in those with established peripheral arterial disease.



# Anticoagulants

- **Heparin**
- low molecular weight heparins(LMWHs):  
**enoxaparin**
- These agent limit the expansion of thrombi by preventing fibrin formation.
- these agents are used for the treatment of acute venous thromboembolism (DVT or PE).

**CLEXANE<sup>®</sup>**

*(Enoxaparin sodium)*

Injectable solution

**4000** anti-Xa IU / **0.4 ml**



equivalent to 40 mg



- **VITAMIN K ANTAGONISTS: warfarin** used clinically as an oral anticoagulant
- The principal adverse effect of warfarin is **bleeding**.
- Minor bleeding may be treated by withdrawal of the drug or administration of oral **vitamin K**



# Drugs used to treat bleeding

1. **Aminocaproic acid and tranexamic acid:**
2. **Protamine sulfate** : treated bleeding from heparin
3. **Vitamin K** : used for treated bleeding from warfarin over dose

# Drugs For Anemia

- are caused by dietary deficiencies of substances such as:
  - iron
  - folic acid
  - vitamin B12

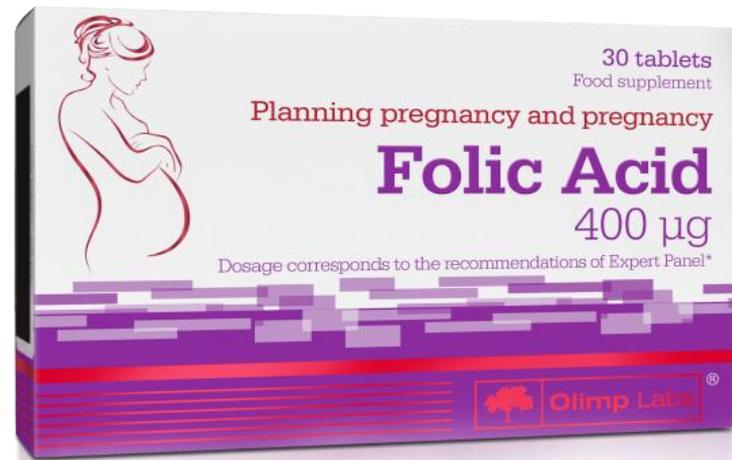
- **Iron deficiency anemia :**
- Oral preparations include:
- ferrous sulfate, ferrous fumarate, ferrous gluconate and polysaccharide-iron complex



- **Parenteral formulations of iron such as:**
- iron dextran and iron sucrose



- **Folic acid : oral tablet 5mg , 1mg and 400 mcg**



- **Cyanocobalamin and hydroxocobalamin (vitamin B12)**
- The vitamin may be administered **orally** (for dietary deficiencies), **intramuscularly**, or **deep subcutaneously** (for pernicious anemia)

