

# HLS- Pharmacology

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Archive

Lecture 1

Anemia pt.1

Corrected by:

*Malaak Al Zaidaneeyen*

# HLS- Pharmacology **Lecture 1**

1. Patient with gastrectomy developed macrocytic anemia, what drug should be taken?

**Oral folate & Parental Cyanocobalamine.**

2. false about methotrexate?

**-inhibit tetrahydrofolate reductase enzyme .**

3. oral folic acid dose is;

**1mg/day** مش معنا بس للإحتياط

كونه ما في كثير اسئلة عالمحاضرة النقاط هاي مهمة

## Treatment of vitamin B<sub>12</sub> deficiency anemia:

### 1-Cyanocobalamin or hydroxocobalamin

❑ These are stable formulations and changed to the active forms (methylcobalamin & deoxyadenosylcobalamin).

❑ In patients with **pernicious anemia**, parenteral therapy is used because **oral therapy is ineffective** as the cause is usually defect in site of absorption.

❑ Cyanocobalamin and hydroxocobalamin are used **I.M.** or deep **S.C.** **but never I.V.**

2- Combination of **oral vitamin B<sub>12</sub>** and **intrinsic factor** can be used in patients with **pernicious anemia** who refuse the injection but the formation of intraluminal **antibodies to human intrinsic factor** may interfere with the absorption of vitamin B<sub>12</sub>.

**Oral and sublingual** preparations containing Vitamin B12 are available.

بمطهرهم درجات العروة

Dose and duration of treatment:

انا شئ من pernicious anemia يعني and ما ينزوم رجاء ال dose.

❑ **100 µg / day** for 1 week I.M.

❑ then **100 µg / week** for 1 month (but for 6 months if there is neurological defects)

❑ then **100 µg /month** for life.

➤ Now vitamin B<sub>12</sub> is available as spray and gel for intranasal use as a maintenance therapy in cases of pernicious anemia.

# HLS- Pharmacology **Lecture 1**

Manifestations of vitamin B12 deficiency anemia:

1-Megaloblastic anemia

2- Neuronal demyelination and cell death in spinal column and cerebral cortex (which needs treatment within **6 months** to avoid irreversible neurological defects).

ما حيوين B12 بالتشخيص الغلا وحيزاد سوب.  
The **neurological manifestations are aggravated** if treated by **folic acid instead of vitamin B12**, so the diagnosis must be accurate by determination of the levels of folic acid and B12 in the plasma.

## Causes of folic acid deficiency anemia:

1. Inadequate intake. ما يوكل خضار

2. Increase in requirements as in pregnancy, hyperthyroidism and chronic dialysis. بالنسبة للظروف فيحتاج كميات أكبر

3. Inhibition of absorption as in malabsorption syndrome, the use of some drugs as phenytoin, phenobarbital and oral contraceptive.

4. Inhibition of dihydrofolate reductase enzyme by methotrexate, trimethoprim and pyrimethamine. Active form يترى inhibiting enzyme. Dihydrofolate reductase inhibition in Proton.

folic acid antagonist

Anti-Bacterial drug

work on folic acid of bacteria but in high doses work on the human.

عَلِّمْنِي أَنْ أَكُونَ جَلِيلَ الذَّاتِ فِي الْخَلَوَاتِ..  
شديد الخُطن بين الجُموع بلا تنازل يُثْقَلْ ظَهْرِي وَلَا هَوَانٍ يُصْنَعُ أَمْرِي. واقصم مني الرِّياء واقصم لي الحياء..  
ولا تجعلني فارغًا يَتَّبَعُ، بل غارِسًا يَتَّسَبَعُ.  
آمين!

# HLS- Pharmacology

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Archive

Lecture 2

Drugs For Coagulation  
disorders I

Corrected by:

*Malak Khaled*



# HLS- Pharmacology **Lecture 2**

1) All the following are indications and clinical uses of HEPARIN EXCEPT?

- a. Treatment of venous thrombosis.
- b. Treatment of MI.
- c. Treatment of pulmonary embolism.
- d. Prophylactic in blood transfusion to prevent clotting.
- e. Treatment of osteoporosis.

**Ans : e**

2) Regarding anticoagulants, the following drug is the specific antidote of HEPARIN?

- a. Protamine sulphate.
- b. Neostigmine.
- c. Vitamin K.
- d. Fresh frozen plasma.
- e. Adrenaline.

**Ans: a**

3) All the following are prophylactic uses of heparin EXCEPT?

- a. Arterial and heart surgery.
- b. Blood transfusion.
- c. Renal dialysis.
- d. Thrombocytopenia.
- e. D.V.T.

**Ans: d**

4) Concerning WARFARIN, all the following sentences are true EXCEPT?

- a. It is structurally related to vitamin K.
- b. It inhibits synthesis of clotting factors TWO, SEVEN, NINE and TEN.
- c. It has delay onset of action, eight to twelve hours. .
- d. It blocks adenyl cyclase enzyme.
- e. Maximum effect obtained after three to five days.

**Ans: d**

# HLS- Pharmacology **Lecture 2**

5) Concerning oral anticoagulants, warfarin block the following enzyme ?

- a. Phosphodiesterase enzyme.
- b. Epoxide reductase.
- c. Adenyl cyclase.
- d. Cholinesterase
- e. Protease enzyme

**Ans: b**

6) One is wrong about advantages of LMWH over UH?

- 1- Higher Bioavailability
- 2- Longer plasma half-life
- c- No need for laboratory monitoring
- 4- More inhibition of platelet function
- 5- lower thrombocytopenia

**Ans: C**

7) heparin is administered by?

- iv infusion

8) all are contraindications of heparin except?

- pneumonia

9) Warfarin is given in all of these conditions except?

- A- pregnancy
- B- DVT
- C- Atrial fibrillation
- D- artificial heart valve
- E- with heparin to treat MI

**Ans: a**

# HLS- Pharmacology **Lecture 2**

10) All the following are direct thrombin inhibitors except?

- Heparin

11) which of following is needed for normal blood coagulation ?

VitK intake

VitC intake

Heparin inhibitions

Plasmin inhibition

**Ans: a**

11) patient develops thrombocytopenia due to unfractionated heparin and still need parenteral anticoagulant?

A. Lepirudin

B. Warfarin

C. Abctiximab

**Ans: A**

12) The wrong statement about fondaparinux is:

A. Renal elimination

B. 100% bioavailability

C. Administered orally

D. Not a heparin product

**Ans: C**

13) all of the following increase WARFARIN activity except?

A. phenobarbital

B. Clofibrate

C. Sulphonamides

**Ans: A**

# HLS- Pharmacology

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Archive

Lecture 3

Drugs for coagulation  
disorders 2

Corrected by:

*Heba Al-Teahi*



# HLS- Pharmacology **Lecture 3**

1) Patient 72 years old coming with ischemic attack and elevated ST, his doctor give him a drug for occluded artery to be open in 2 hours ,mechanism of drug that convert plasminogen to plasmin?

A) Aminocorpic acid

B) Heparin

C) Reteplase

D) warfarin

**Answer:C**



# HLS- Pharmacology

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Archive

Lecture 4

immunomodulatory  
drugs

Corrected by:

*Rahaf Alshatarat*

# HLS- Pharmacology **Lecture 4**

1) All following matches about immunosuppressants are true EXCEPT?

- a. Cyclosporine- Calcineurin inhibitor.
- b. Tacrolimus side effects- neurotoxicity.
- c. Azathioprine- inhibits purine synthesis.
- d. Muromonab- against CD 25 antigen.
- e. Basiliximab- IL-2 receptor antagonist

**Ans: d**

2) All following are side effects of cyclosporine EXCEPT?

- a. Nephrotoxicity.
- b. Hepatotoxicity.
- c. Anaphylactoid reactions.
- d. Infections.
- e. Neurotoxicity.

**Ans: e**

3) wrong statement regarding immunosuppressants:  
**cyclosporin is 100 times more potent than tacrolimus**

4) All following are true about immunosuppressants EXCEPT?

- a. Cyclosporine can be given orally or intravenously.
- b. Cyclosporine is more potent than tacrolimus.
- c. Combination of sirolimus and cyclosporine is synergistic.
- d. Mycophenolate is given orally.
- e. Azathioprine is prodrug that is converted to 6-mercaptopurine.

**Ans: b**

# HLS- Pharmacology **Lecture 4**

5) All of the following drugs are related to IL2, except?

**Oprelvekin (neumega)**

6) Woman with kidney transplant, what appropriate drug to take to prevent rejection?

a. Interferon

b. Interleukin

c. Muromonab CD3

d. Filgrastim

**Ans: c**

7) All following are side effects of cyclosporine EXCEPT?

a. Nephrotoxicity

b. Hepatotoxicity

c. Anaphylactoid reactions

d. Infections

e. Neurotoxicity

**Ans: e**

# HLS- Pharmacology

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Archive

Lecture 5

treatment of iron  
deficiency anemia

Corrected by:

*Rahaf Alshatarat*



# HLS- Pharmacology **Lecture 5**

1) Which of the following is false about oral iron therapy?

- A. Contraindicated in pregnancy and lactating
- B. Increases absorption with deficiency
- C. May obscure (mask) GI bleeding because of black stool
- D. Precipitates with tea

Ans: a

2) All of the following are side effects of IV iron, except?

- A. Headache
- B. Nausea, vomiting
- C. Arthralgia
- D. Hypersensitivity
- E. Hypothermia

Ans: e

3) All of the following are adverse effects of oral iron therapy, except?

- A. Nausea
- B. Epigastric discomfort
- C. Abdominal cramps
- D. Constipation
- E. Ataxia

Ans: e

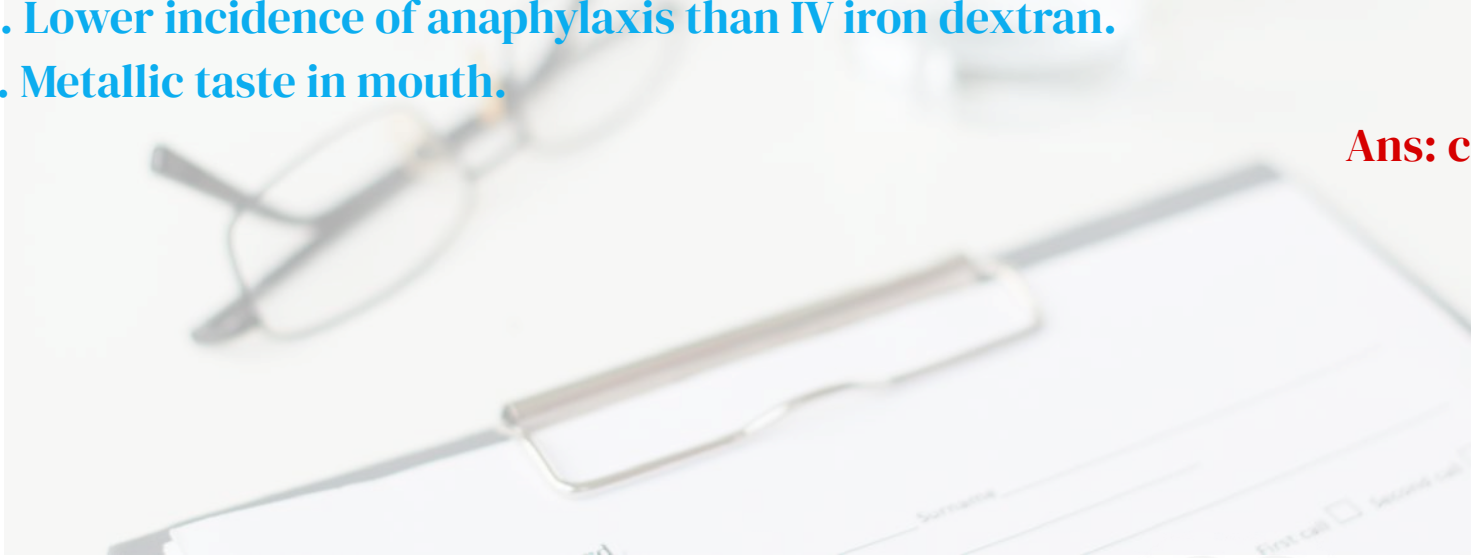
4) The following are adverse effects of iron sucrose, given IM EXCEPT?

- a. Dizziness and disorientation.
- b. Brown-black staining at IM injection site.
- c. Does not cause hypotension.

# HLS- Pharmacology **Lecture 5**

- d. Lower incidence of anaphylaxis than IV iron dextran.
- e. Metallic taste in mouth.

**Ans: c**



الطب والجراحة  
لجنة

# HLS- Pharmacology

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Archive

Lecture 6

introduction to anti-  
neoplastic drugs

Corrected by:

*Rahaf Alshatarat*

# HLS- Pharmacology **Lecture 6**

1) Female came in with hematuria and pain in bladder, the most common drug that's associated with this case is?

**Cyclophosphamide**

2) Which of the following is not part of POMP regimen?

- a. Prednisone
- b. Vincristine
- c. Methotrexate
- d. Mercaptopurine
- e. peditaxel

**Ans: e**

3) Which of the following drugs is not an antimetabolite?

**Chlorambucil (alkylating agents)**

4) All are true drug-toxicity, except?

**Vincristine causes myelotoxic**

5) The drug which causes hemorrhagic cystitis (UB)? مهم

**Cyclophosphamide**

# HLS- Pharmacology **Lecture 6**

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6) Which one of the following is least likely to be a mechanism of cancer cell resistance to antineoplastic drugs?

- a. Change in properties of a target enzyme.
- b. Decreased activity of activating enzymes.
- c. Increase in drug—metabolizing cytochrome P450.
- d. Increase in DNA repair.
- e. Increase in production of drug-trapping Molecules.

**Ans: c**

7) The purpose of Neoadjuvant chemotherapy is?

- a. Eradicating micrometastatic disease following localized modalities.
- b. Relieving symptom and improving the quality of life in patients with advanced stages of cancer.
- c. Attempting to shrink the tumor size prior to surgery
- d. Is a primary curative modality for leukemias.
- e. Has no effect on relieving symptoms of thyroid cancer.

**Ans: c**

8) In a patient with diffuse lymphoma, the oncologist suggests a treatment strategy that involves the initial administration of doxorubicin to obtain a significant log— kill, followed by the cell cycle— specific drugs cytarabine and Vincristine. This therapeutic strategy is called?

- a. Pulse therapy.
- b. Recruitment.
- c. Rescue therapy.
- d. Sequential blockade.
- e. Synchrony

**Ans : b**



# HLS- Pharmacology

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Archive

Lecture 7

anti-neoplastic drugs  
(part 1)

Corrected by:

*Rahaf Alshatarat*

# HLS- Pharmacology **Lecture 7**

1) Which of the following antineoplastic drugs has a cardiotoxic effects which limits its use?

- a. Doxorubicin
- b. Methotrexate
- c. Mitomycin C

Ans: a

2) True statements regarding alkylating agents include all the following EXCEPT? Select one:

- a. They are cell cycle nonspecific agents.
- b. Acquired resistance can occur.
- c. They add alkyl groups to DNA.
- d. They are structurally similar to naturally occurring substances.
- e. Nitrogen mustards are examples of this class of drugs.

Ans: d

3) False about methotrexate?

**inhibit tetrahydrofolate reductase enzyme**

4) Drug for ovarian cancer that causes hearing loss? مهم

**cisplatin**

5) Drug with pulmonary disease/toxicity as adverse effect? مهم

**Bleomycin**

6) Alkylating agent?

**Cisplatin**

# HLS- Pharmacology **Lecture 7**

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7) How do antimetabolites exert their cytotoxic effect?

- a. Inhibiting DNA synthesis by sliding between DNA base pairs.
- b. Inhibiting RNA synthesis by sliding between RNA base pairs.
- c. Acting as false metabolites in the microtubules.
- d. Acting as false substitutions in the production of nucleic acids.
- e. Promoting microtubule assembly and Stabilization.

**Ans: d**

8) Which of the following chemotherapy agents acts by intercalation?

- a. Vincristine.
- b. Paclitaxel.
- c. Doxorubicin.
- d. Vincristine and paclitaxel.
- e. Topotecan.

**Ans: c**



# HLS- Pharmacology

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Archive

Lecture 8

anti-neoplastic drugs  
(part 2)

Corrected by:

*Rahaf Alshatarat*

# HLS- Pharmacology **Lecture 8**

1) Which drug is most appropriate for a 65-year-old female patient with an estrogen-sensitive tumor and an allergy to aromatase inhibitors (AIs)?

- a. Tamoxifen
- b. Cisplatin
- c. Letrozole

**Ans: a**

2) All the following about Trastuzumab are true EXCEPT?

- a. It antagonizes the vascular endothelial growth factor receptor.
- b. It is used for the treatment of metastatic breast cancer.
- c. It is administered intravenously.
- d. It's adverse effects include congestive heart failure, fever, and chills
- e. It induces cellular cytotoxicity

**Ans: a**

3) What monoclonal antibody is against vascular endothelial growth factor?

**Bevacizumab**

4) Which drug causes an increase in polymerization of tubulin?

**Paclitaxel**

5) Tyrosine kinase inhibitor?

**Imatinib**



# HLS- Pharmacology **Lecture 8**

6) A child with hearing loss after using an anti-neoplastic drug; this areflexia is associated with:

- a. Vincristine
- b. Vinblastine
- c. Cisplatin

Ans: c

7) One of these paired cytotoxic agents have similar mechanism of action?

- a. Vincristine and paclitaxel.
- b. Etoposide and paclitaxel.
- c. Docetaxel and paclitaxel.
- d. Docetaxel and etoposide.
- e. Vincristine and etoposide.

Ans: c

8) One of these cytotoxic agents shows high emetogenic potential?

- a. Vincristine.
- b. Chlorambucil.
- c. 6-Mercaptopurine.
- d. Cisplatin.
- e. None of the selection.

Ans: d

9) Vinca alkaloids exert antitumor activity by?

- a. Activating topoisomerase II to cause breaks in DNA strands.
- b. Crosslinking DNA strands.
- c. Inhibiting DNA mediated RNA synthesis.

# HLS- Pharmacology **Lecture 8**

**d. Inhibiting polymerization of tubulin to form intracellular microtubules.**

**e. None of the selection.**

**Ans: d**

**10) Which of the following agents used in drug combination regimens to treat testicular carcinoma is most likely to cause nephrotoxicity?**

**a. Bleomycin.**

**b. Leuprolide.**

**c. Cisplatin.**

**d. Vinblastine.**

**e. Etoposide.**

**Ans: c**

**3) Which one the following is a Tyrosine kinase inhibitor?**

**a. Cisplatin**

**b. Tamoxifen**

**c. Irinotecan**

**d. Gefitinib**

**e. Paclitaxel**

**Ans:d**