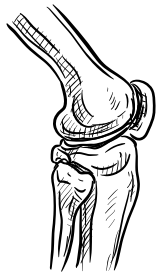
بسم الله الرحمن الرحيم



PHARMACOLOGY

FINAL | Lecture 1-5

Test bank

Written by: Haneen Albnna

﴿وَإِن تَتَوَلَّوْا يَسْتَبْدِلْ قَوْمًا غَيْرَكُمْ ثُمَّ لَا يَكُونُوا أَمْثَالَكُم﴾

اللهم استعملنا ولا تستبدلنا

ٱللَّهُ لَآ إِلَٰهَ إِلَّا هُوَ ٱلْحَىُّ ٱلْقَيُّومُ ۚ
لَا تَأْخُذُهُۥ سِنَةٌ وَلَا نَوْمٌ ۚ لَّهُۥ مَا فِى ٱلسَّمَٰوَٰتِ وَمَا فِى ٱلْأَرْضِ ۗ
مَن ذَا ٱلَّذِى يَشْفَعُ عِندَهُۥٓ إِلَّا بِإِذْنِهِۦ ۚ يَعْلَمُ مَا بَيْنَ أَيْدِيهِمْ
وَمَا خَلْفَهُمْ ۖ وَلَا يُحِيطُونَ بِشَىْءٍ مِّنْ عِلْمِهِۦٓ إِلَّا بِمَا شَآءَ ۚ
وَسِعَ كُرْسِيُّهُ ٱلسَّمَٰوَٰتِ وَٱلْأَرْضَ ۖ وَلَا يَـُٔودُهُۥ حِفْظُهُمَا ۚ
وَهُوَ ٱلْعَلِىُّ ٱلْعَظِيمُ ﴿٢٥٥﴾

هاي أسئلة إضافية مقسّمة حسب المحاضرات، وبعدها بيجي ملخص للمحاضرة كاملة ، حاولنا نشمل كل معلومات الموديفايد بالأسئلة

الله يفتحها عليكم، ما تنسونا من دعائكم

" اللهم إني أعوذ بك أن أشرك بك وأنا أعلم، وأستغفرك لما لا أعلم."

"ما شاء الله لا قوة إلا بالله"

Additional Q

Lecture 1

Adverse Effects of Dermatologic Preparations :

Mnemonic: BED PS³ 

B:

E:

D:

P:

S:

Ans: next page

Ans:

Adverse Effects of Dermatologic Preparations :

B → Burning or stinging sensation
E → Erythema
D → Drying & Irritation
P → Pruritus (Itching)
S → Superficial erosion
Sensitization
Staining

Fill the box with the correct Antibacterial Agents:

Neomycin – Bacitracin – Genatamicin – Gramicidin – Fusidic acid – Polymyxin B Sulfate

Gram POSITIVE Bacteria	Gram NEGATIVE Bacteria

Ans: next page

Ans:

Fill the box with the correct Antibacterial Agents:

Neomycin – Bacitracin – Genatamicin – Gramicidin – Fusidic acid – Polymyxin B Sulfate

Gram POSITIVE Bacteria	Gram NEGATIVE Bacteria
Bacitracin	Polymyxin B sulfate
Gramicidin	Genatamicin
Fusidic acid	Neomycin

سبحان الله وبحمده سبحان الله العظيم

What is the primary risk associated with systemic use of Bacitracin?

A) Hepatotoxicity

B) Nephrotoxicity (kidney toxicity)

C) Skin rash

D) Neuropathy

E) Contact dermatitis

Ans: B

Which topical antibacterial agent targets gram-positive bacteria :

A) Gentamicin

B)Metronidazole

C) Gramicidin

D) Polymyxins

E) Neomycin

Ans: C

True or False: Best Bacitracin Statements :

1. Bacitracin is effective against most anaerobic bacteria, including Pseudomonas aeruginosa.
2. Due to its toxicity, Bacitracin is not available for oral use and is primarily administered via IM injection.
3. The most common allergic reaction to Bacitracin is contact dermatitis rather than systemic urticaria.
4. Bacitracin is available in multiple formulations(creams, ointments, aerosols) depending on the site of infection.
5. Bacitracin can be combined with anti-inflammatory agents (hydrocortisone) to enhance its therapeutic effect.
6. Bacitracin is active against Corynebacterium diphtheriae & Clostridium tetani.
7. Bacitracin is well absorbed through the skin, leading to frequent systemic toxicity.
8. Bacitracin is often combined with polymyxin B and neomycin in topical antibiotic preparations.

Ans: next page

Ans:

1. False – Pseudomonas aeruginosa is resistant.
2. False – Bacitracin is not used intramuscularly (used but restricted- very rare) due to high nephrotoxicity; it’s mainly topical.
3. True
4. True
5. True
6. True
7. Fulse - Bacitracin is poorly absorbed through the skin, so systemic toxicity is rare.
8. True

Which topical antibacterial agent targets gram-negative bacteria：

A) Gentamicin

B) Bacitracin

C) Mupirocin

D) Retapamulin

Ans: A

اللهم صلِ على سيدنا محمد

Which of the following combinations of Antibiotics is found in Neosporin ointment :

A) Bacitracin, Clindamycin, polymyxin B

B) Neomycin, Ampicillin, Polymyxin B

C) Bacitracin, Tetracycline,Polymyxin B

D) Bacitracin, Neomycin, polymyxin B

E) Bacitracin, Gentamicin, polymyxin B

Ans: D

A 7-year-old child presents with a superficial skin infection on the knee after falling on the playground. The wound appears mildly erythematous with no signs of deep infection.
The doctor prescribes a topical antibiotic ointment (Neosporin).
Which of the following is the primary reason for using this combination?

A) Bacitracin covers G-negative bacteria, while neomycin and polymyxin B cover G-positive bacteria.

B) Bacitracin is active against G-positive bacteria, while polymyxin B & neomycin provide Gram-negative coverage.

C) Bacitracin enhances systemic immune response when absorbed through the skin.

D) Neosporin is effective against fungal infections as well as bacteria.

E) Neomycin is used primarily to reduce pain and inflammation rather than bacterial growth.

Ans: B

سبحان الله وبحمده سبحان الله العظيم

All of the following antibacterial agents could be used to treat Pseudomonas aeruginosa infections except:

A) Polymyxin B sulfate

B) Neomycin

C) Gentamicin

D) Bacitracin

Ans: D

A 65-year-old patient with renal failure is admitted to the hospital and requires topical antibacterial treatment for a skin infection. Which of the following antibacterial agents would be the most suitable for this patient:

A) Gentamicin

B) Bacitracin

C) Polymyxin B sulfate

D) Penicillin

E) Neomycin

Ans: D

Nephrotoxicity*

Polymyxin B sulfate can be used to treat all of the following infections except:

A) Pseudomonas aeruginosa

B) Escherichia coli

C) Enterobacter

D) Klebsiella

E) Serratia

Ans: E

أستغفر الله العظيم الذي لا
إله إلا هو الحي القيوم
وأتوب إليه

Which of the following antibiotics works by inhibiting the formation of the linear peptidoglycan chain:

A) Bacitracin

B) Fusidic acid

C) Polymyxin B sulfate

D) Neomycin

E) Gentamicin

Ans: A

Which of the following antibiotics does not work by inhibiting protein synthesis:

A) Neomycin

B) Gentamicin

C) Polymyxin B sulfate

D) Fusidic acid

Ans: C

Which of the following antibiotics is associated with both neurotoxicity and nephrotoxicity:

A) Neomycin

B) Polymyxin B sulfate

C) Gentamicin

D) Bacitracin

E) Fusidic acid

Ans: B

سبحان الله وبحمده سبحان الله العظيم

Which of the following statements is incorrect:

A) Fusidic acid is often used topically to treat minor cuts or acne.

B) Bacitracin can be used oraly and IM injections.

C) Allergic contact dermatitis occurs frequently with bacteriacin.

D) Gram-positive and Proteus bacteria resistant to Polymyxin B sulfate.

E) Allergic contact dermatitis is not common with polymyxin B sulfate.

Ans: B

Which of the following statements is correct:

A) Fusidic acid combined with cortisone (Fusicort) is used for major systemic infections.

B) Neomycin and gentamicin are both excreted by the liver.

C) Gentamicin is more effective than neomycin against Pseudomonas aeruginosa.

D) The total daily dose for polymyxin B sulfate should not exceed 200 mg to avoid toxicity.

E) Fusidic acid is used for systemic infections, and the combination with cortisone is ineffective for minor skin infections.

Ans: C, D

سبحان الله وبحمده سبحان الله العظيم

Which of the following drugs acts as an irreversible inhibitor of Ornithine Decarboxylase?

A) Eflornithine

B) Methotrexate

C) Pyrimethamine

D) Rifampin

E) Finasteride

Ans: A

سبحان الله وبحمده سبحان الله العظيم

Which of the following statements is incorrect:

A) Minoxidil promotes hair growth by acting as a vasodilator, increasing blood flow to hair follicles.

B) Finasteride inhibits 5α-reductase, reducing the conversion of testosterone to (DHT)

C) Eflornithine enhances polyamine synthesis, leading to decrease hair growth.

D) Androgenic alopecia, affects both males and females.

E) Eflornithine is an irresistible inhibitor

Ans: C

Inhibits*

A 60-year-old male with hypertension is currently on an antihypertensive medication. He is diagnosed with androgenic alopecia and is prescribed Minoxidil. What is the most likely cardiovascular effect that requires monitoring:

A) Increased risk of bradycardia

B) Severe hypertension

C) Reflex tachycardia

D) Increased myocardial contractility

E) Coronary artery vasoconstriction

Ans: C

+ excessive hypotension

اللهم صلِ على سيدنا محمد

About all of the following factors are major contributors to acne, except:

A) Excess oil (sebum) production

B) Hair follicles clogged by oil and dead skin cells

C) Bacterial infection with aerobic bacteria (Cutibacterium acnes)

D) Inflammation

E) Excessive use of moisturizing lotions

Ans: E+C

Anaerobic *

What is the correct progression of acne, from earliest to latest stage:

A) Inflammatory lesions → Nodulocystic lesions → Comedonal lesions → Scarring

B) Comedonal lesions → Inflammatory lesions → Nodulocystic lesions → Scarring

C) Nodulocystic lesions → Comedonal lesions → Inflammatory lesions → Scarring

D) Scarring → Comedonal lesions → Inflammatory lesions → Nodulocystic lesions

E) Inflammatory lesions → Scarring → Comedonal lesions → Nodulocystic lesions

Ans: B

Trx : usually in 1+ 2

Summary

	Bacitracin	Fusidic acid	Polymyxin B sulfate	Neomycin	Gentamicin
Mechanism of action	inhibits the formation of the linear peptidoglycan chain	protein synthesis inhibitor		protein synthesis inhibitor = Aminoglycoside antibiotics	protein synthesis inhibitor = Aminoglycoside antibiotics
Uses / Active against	• streptococci, staphylococci pneumococci • most anaerobic cocci neisseriae, tetanus bacilli, diphtheria bacilli are sensitive	• Staphylococcus species, Streptococcus species • Corynebacterium species	•Gram-negative: P aeruginosa E coli enterobacter klebsiella.		Greater activity against P aeruginosa than neomycin. more active against staphylococci & group A β-hemolytic streptococci.
Adverse effects	Toxicity : • **Allergic contact dermatitis** occurs frequently •immunologic allergic contact urticaria is rare. **nephrotoxicity** (kidney toxicity), which can lead to acute renal failure.		Total daily dose should not exceed 200 mg applied on (denuded - open wounds) ! ! risk of systemic absorption is higher: Neurotoxicity & **Nephrotoxicity** – **Allergic contact dermatitis** NOT common	**Allergic contact dermatitis** (only small percentage of patients) systemic toxicity : Especially in renal failure or compromised kidney (Excreted in urine)	systemic toxicity : esp in renal failure or compromised **kidney** (Excreted in urine)
Other notes	• Poorly absorbed through skin, systemic toxicity is rare oral use ❎ Topical ✅ • Form: creams, ointments, aerosol preparations •Frequently compined with : polymyxin B & neomycin • Usually Anti inflammatory agents added–hydrocortisone	Minimize the risk of infection – antibacterial properties. Treat minor cuts or acne. often used TOPICALLY creams & eyedrops . • Fusicort : Fusidic acid + cortison (Anti inflammatory agent) Only for minor areas cause (Cortison suppress immunity	Resistant: Proteus & serratia all G + organisms		

Summary

	Minoxidil (Rogaine)	Finasteride (Propecia)	Eflornithine
producing hair drug / Anti-producing hair drug	Trichogenic	Trichogenic	Antitrichogenic
Uses	- Designed as antihypertensive (↓ BP) - K+ channel open - hyperpolarization (VD) - may act as a NO - VD Agonist - ↑ O2, blood, nutrients to the follicles, follicles in the telogen (resting phase) will shed,then replaced by thicker hairs in a new anagen (highly replicating phase).	**5ά-reductase inhibitor – blocks conversion of testosterone to DHT** **→ decreasing androgenic alopecia.** **Oral tablets**	**Irreversible inhibitor of ornithine decarboxylase** therefore **Inhibits polyamine synthesis** (Polyamines are important in cell division & hair growth)
Effect	Reversing progressive miniaturization of terminal scalp hairs **associated with androgenic alopecia** (hereditary baldness affected by DHT) **Vertex balding is more responsive than frontal balding.**		Reduce facial hair growth in 30% of women when used for 6 months. **– For topical usage**
Adverse effect	◯ Normal person ↓ BP (VD) → Hypotension (innocent - not a disease) → Body try to balance by ↑ HR → reflex tachycardia ◯ hyprtensive patient take med to decrease BP and the drug it self ↓ BP (both drugs will ↑ heart rate)	Decrease libido ejaculation disorders erectile dysfunction	

"ما شاء الله لا قوة إلا بالله"

Additional Q

Lecture 2

Choose all possible choices

Which of the following antibiotics inhibit bacterial protein synthesis :

A. Neomycin

B. Gentamicin

C. Clindamycin

D. Erythromycin

E. Fusidic acid

F. All of the above

Ans: F

سبحان الله وبحمده سبحان الله العظيم

Which of the following formulations contains the highest water content, arranged in descending order of water content :

A. Solution > Lotion > Cream > Gel

B. Lotion > Solution > Gel > Cream

C. Gel > Cream > Lotion > Solution

D. Cream > Gel > Solution > Lotion

Ans: A

Match each description with the correct formulation type (Cream, Lotion, Gel, Solution) :

1. _____ suitable for dry / sensitive skin.
2. _____ better for hairy area.
3. _____ Contains the highest oil content.
4. _____ suitable for all skin types.
5. _____ suitable for oily skin.

Ans:

1. Cream
2. Solution
3. Gel
4. Lotion 🧴
5. Solution

Which of the following is NOT an anti-comedonal agent:

A) Adapalene

B) Differin

C) Salicylic acid

D) Azelaic acid

E) Clindamycin

Ans: E

Which of the following is a clinical use of Azelaic Acid besides acne treatment:

A) Topical treatment for rosacea due to its anti-inflammatory effects.

B) Oral medication for hair loss when combined with other drugs.

C) First-line treatment for severe cystic acne, replacing isotretinoin.

D) Used systemically to treat skin pigmentation disorders.

Ans: A

أستغفر الله العظيم الذي لا
إله إلا هو الحي القيوم
وأتوب إليه

Which of the following best describes the role of Azelaic Acid in acne treatment:

A) It works by increasing secondary sex hormone levels, making it effective for hormonal acne.

B) It has anti-inflammatory, antibacterial, keratolytic, anti-hyperpigmentation properties.

C) It is mainly bacteriocidal, with little effect on anaerobic bacteria.

D) It is only used for comedonal acne, not inflammatory acne.

Ans: B

Which of the following statements about Azelaic Acid is INCORRECT:

A) It has keratolytic activity, helping to decrease the production of keratin.

B) It’s crboxylic acid derivative , can be produced chemically & naturally (malassezia furfur).

C) It inhibits tyrosinase, reducing hyperpigmentation.

D) It is used to treat melasma and post-inflammatory hyperpigmentation.

E) It works primarily by increasing melanin production to even out skin tone.

Ans: E

اللهم صلِ على سيدنا محمد

One of the following drugs works by inhibiting 5-alpha reductase, blocking the conversion of testosterone to(DHT):

A. Minoxidil

B. Finasteride

C. Azelaic acid

D. Both B and C

E. None of the above

Ans: D

Both treats baldness

سبحان الله وبحمده سبحان الله العظيم

All of the following can be used to treat baldness except:

A. Azelaic acid

B. Minoxidil

C. Finasteride

D. Eflornithine

Ans: D

One of the following is appropriate for treating melasma and post-inflammatory hyperpigmentation:

A. Minoxidil

B. Finasteride

C. Eflornithine

D. Azelaic acid

Ans: D

A 22-year-old woman is prescribed isotretinoin for severe acne. Before starting treatment, what is the most critical precaution that must be taken :

A) Liver function tests

B) Kidney function monitoring

C) Pregnancy test and contraception counseling

D) Monitoring for mood changes

Ans: C

The most serious adverse effect that we are most concerned about with vitamin A derivatives is:

A) Hepatotoxicity

B) Teratogenicity

C) Pseudotumor cerebri

D) Hyperlipidemia

Ans: B

أستغفر الله العظيم الذي لا
إله إلا هو الحي القيوم
وأتوب إليه

All of the following are anti-inflammatory agents used to treat acne EXCEPT:

A) Clindamycin

B) Erythromycin

C) Metronidazole

D) Benzoyl Peroxide

E) All of the above is correct

Ans: E

Which of the following statements about topical clindamycin is TRUE:

A) It is completely absorbed systemically, leading to a high risk of pseudomembranous colitis.

B) The hydroalcoholic formulation is preferred for individuals with sensitive skin.

C) Water-based gel formulations are better tolerated and cause less irritation.

D) Clindamycin cannot be combined with other acne treatments.

Ans: C

Which of the following is a potential drawback of long-term topical erythromycin use:

A) Increased risk of systemic toxicity

B) Development of antibiotic-resistant bacteria like staphylococci

C) Permanent skin discoloration

D) Complete destruction of acne-causing bacteria

Ans: B

اللهم صلِ على سيدنا محمد

Topical clindamycin is commonly combined with which of the following agents to enhance its effectiveness:

A) Tretinoin and Benzoyl Peroxide

B) Salicylic Acid and Isotretinoin

C) Minocycline and Metronidazole

D) Adapalene and Doxycycline

Ans: A

Which of the following acne treatments works by releasing free oxygen radicals that kill anaerobic bacteria like Cutibacterium acnes：

A) Clindamycin

B) Tretinoin

C) Benzoyl Peroxide

D) Azelaic Acid

E) Erythromycin

Ans: C

سبحان الله وبحمده سبحان الله العظيم

A patient using a topical acne treatment reports a burning sensation and skin irritation upon application. Which of the following drugs is most likely responsible:

A) Benzoyl Peroxide

B) Clindamycin

C) Salicylic Acid

D) Adapalene

E) Erythromycin

Ans: E

Which of the following topical acne treatments may cause pseudomembranous colitis in susceptible individuals:

A) Benzoyl Peroxide

B) Clindamycin

C) Erythromycin

D) Adapalene

E) Azelaic acid

Ans: B

A 32-year-old woman presents with frequent facial redness and visible blood vessels on her cheeks, worsening with stress and heat. Which of the following drugs would be most appropriate for this patient's condition?

A) Benzoyl Peroxide

B) Metronidazole

C) Azelaic Acid

D) B +C

E) None of the above

Ans: D

Which of the following is NOT a mechanism of action of isotretinoin (Roaccutane) in the treatment of severe acne:

A) Decreases sebaceous gland activity, reducing oil production.

B) Increases epidermal cell turnover, helping expel comedones.

C) Stimulates the production of collagen and new blood vessels.

D) Decreasing cAMP and cGMP levels to act as vasodilators,reducing redness.

E) Reduces cohesion btw epidermal cells, promoting the shedding of dead skin cells.

Ans: D

Which of the following is a common side effect of isotretinoin (Roaccutane) treatment:

A) Increased sebaceous gland activity leading to more oil production.

B) Excessive tearing or dry eyes.

C) Increased skin hydration and less dryness.

D) Decreased bone density and increased risk of fractures.

E) Decreased collagen production, leading to thinning of the skin.

Ans: B

Which of the following drugs can cause excessive tearing, and should be avoided around the eyes:

A) Metronidazole

B) Erythromycin

C) Clindamycin

D) Benzoyl Peroxide

E) Adapalene

Ans: A

Match each statement with the correct drug:

Retinoids / Azelaic acid / Salicylic acid / Benzoyl peroxide/ Metronidazole/ Clindamycin/ Erythromycin/ Roaccutane

1. Keratolytic effect
2. Bacteriostatic effect
3. Bactericidal effect
4. Higher concentrations treat warts & corns
5. topical gel treatment for rosacea
6. Apply at night (photosensitivity)
7. belongs to the same class of drugs as aspirin
8. Applied twice daily
9. Category X
10. Treat baldness
11. Pustular flare
12. Tumerogenic in animals

1. 2 acids, BP
2. AA
3. BP
4. SA
5. 🚇, AA
6. Retinoids
7. SA
8. 2 acids, 2 mycin
9. Retinoids
10. AA
11. Retinoids
12. Roaccutane

Summary : Anti Comedonal Agents – Topical therapy

	Tobical retinoids0.025 – 0.5 % Adapalene + Differin	Azelaic acid	Salicylic acid
Mechanism of action	Apply at night (photosensitivity) Apply at test Dose Start at low concentration	**Competitive inhibitor : mitochondrial oxidoreductases 5 alpha-reductase (testosterone to 5- DHT)** **Treat bladness when compined** **bacteriostatic** (aerobic & anaerobic) including Propionibacterium acnes. Anti-inflammatory / oxidant / hyperpigmentation + keratolytic **Applied 2 Daily** **treat both comedonal & inflammatory acne**	swelling , redness ,unplugging blocked skin pores to allow pimples to shrink. Anti-inflammatory – keratolytic **Applied 2 Daily** **Used for comedonal lesions** **mild to moderate lesions** **High doses are used for:** **hyperkeratinization (warts & corns)**
Adverse effects	Systemic manifestation - minimal (not easily absorbed) **Category X - Avoid in** Dryness (moisturizers) Erthema ,Irritation (common) Photosensitivity **Pustular flare** (temporal exaggeration when first applied)	Erthema , Irritation treat hyperpigmentation by : inhibiting tyrosinas **Used to treat** **1. melasma** **2. post-inflammatory hyperpigmentation.** **3. Rosacea**	Dryness irritation High doses, risk of systemic absorption thus toxicity, should be considered. Aspirin sensitivity / contraindications
Other notes		**produced chemically + naturally from Malassezia furfur .** belongs to a class of chemicals called **dicarboxylic acids.** • Works by killing acne bacteria (infect skin pores)	belongs to the same class of drugs as aspirin (salicylates).

Summary : Anti Inflammatory Agents - Topical therapy

	Benzoyl Peroxide 2.5 - 10%	Clindamycin	Erythromycin	 nidazole
Mechanism of action	Releases H2O2 (free radicals & oxygen) • Aerobic bacteria are sensitive for oxygen, Exhibits **bactericidal** effects against Cuti.Acne • Acid = **Keratolytic** to prevent & clear clogged pores • **Anti-inflammatory** properties to reduce redness and swelling.	Formulations : 1. Hydroalcoholic vehicle & foam 2. Water-based gel & lotion 3. Fixed compination topical gel with Benzoyl peroxide / tretinoin **Applied 2 daily**	topical preparations erythromycin base NOT salt (to facilitate penetration) **Applied 2 daily**	Unknown, but it may relate to the inhibitory effects on Demodex brevis anti-inflammatory agent by direct effect on neutrophil cellular function Treat **Rosacea**
Adverse effects	➢ Avoid leaving for long periods to minimize irritation (potent irritant, skin requires time to accommodate its effect, don't apply it before sleeping) ➢ Dryness of skin	Pseudomembranous colitis – 10% absorbed systemically Adverse effect for formulations : 1. Drying irritation – Burning stinging (transition to the water-based gel) 2. well tolerated, less likely to cause irritation. Allergic contact dermatitis is uncommon	**Burning sensation** **Drying** **irritation at the time of application** long-term topical therapy : Develop **antibiotic-resistant** strains of organisms, including staphylococci.	**Drying** **Burning** stinging **excessive tearing**
Other notes	➢ Trx begins with a **once-daily gradually increasing** till tolerance.	Combination therapy: 5% Benzoyl Peroxide + 1% Clindamycin Topical antibiotics & Azelaic acid or Tretinion	Combination therapy: 5% Benzoyl Peroxide + 3% Erythromycin Topical antibiotics & Azelaic acid or Tretinion can also be used systemically	Antiparasitic Antibacterial Anti-inflammatory NOT Antifungal

Summary : Systematic therapy

acne non-responsive to topical therapy + Nodulocystic

	Oral Antibiotics	Isotretinoin Accutane/RoAccutane	Hormonal therapy
Mechanism of action	used for 3-6 months 1. Tetracycline 500mg - BD 2. Eythromycin 500mg – BD 3. Doxycycline 100mg - BD 4. Minocycline 100mg – OD 5. combined with topical therapy Cyclin*	• severe nodulocystic acne • Non-responsive acne • severe psychological distress • Stabilizes lysosomes ↑ RNA polymerase activity ↑ PGE2, cAMP, cGMP levels (cAMP & cGMP are VD) ↑ incorporation of thymidine into DNA, more cell regeneration • ↓ cohesion btw epidermal cells ↑ epidermal cell turnover - dcomedones openes . • Promotes dermal collagen synthesis, new BV formation, thickening of the epidermis, diminish fine lines & wrinkles.	
Adverse effects	Doxycycline : inhibit MMPs prevent degradation of ECM & collagen - improves skin structure and appearance 1+3+4 antibacterial – anti-inflammatory Cyclin*	1. Teratogenic 2. Mucosal dryness - moisturizers & eye drops 3. Photosensitivity 4. Arthralgias 5. Alteration of liver enzymes 6. hypertriglyceridemia & hypercholesterolemia • Tumerogenic in animals remain in the body for up to one month – avoid 🤰 + donating 🩸	

"ما شاء الله لا قوة إلا بالله"

Additional Q

Lecture 3
Psoriasis

Which is the most common form of psoriasis:

A) Pustular psoriasis

B) Guttate psoriasis

C) Plaque psoriasis

D) Inverse psoriasis

E) Scalp psoriasis

Ans: C

What is the first step in the development of Psoriasis:

A) Activation of T-helper cells against keratinocytes

B) Increased keratinocyte proliferation (Hyperproliferation)

C) Dendritic cells recognize keratinocytes as foreign bodies

D) Increased inflammation in the skin

Ans: C

Which of the following is a type of psoriasis that can be triggered by a streptococcal infection and is characterized by pinpoint lesions:

A) Guttate Psoriasis

B) Psoriatic Erythroderma

C) Pustular Psoriasis

D) Plaque Psoriasis

E) Scalp psoriasis

Ans: A

سبحان الله وبحمده سبحان الله العظيم

Which of the following is NOT a typical characteristic of psoriasis:

A) Chronic inflammation and hyperkeratosis

B) Can be triggered by sun exposure, smoking, or certain medications

C) Always requires a genetic predisposition for onset

D) Can be localized or systemic, such as pustular psoriasis

E) May present with nail involvement and itching

Ans: C

Which of the following corticosteroids is considered low potency when used topically :

A) Hydrocortisone

B) Betamethasone

C) Triamcinolone

D) Fluocinonide

Ans: A

Which of the following is the first-line treatment for keloid scars:

A) Prednisolone

B) Fluocinonide

C) Triamcinolone

D) Dexamethasone

Ans: C

intra-lesional injection

Which of the following is an adverse effect associated with long-term use of topical corticosteroids:

A) Skin thickening

B) Acne

C) Increased hair growth

D) Hyperpigmentation

E) Increased pituitary gland work

Ans: B

أستغفر الله العظيم الذي لا
إله إلا هو الحي القيوم
وأتوب إليه

Which of the following is the main action of Vitamin D analogues like calcipotriene and calcitriol in the treatment of psoriasis:

A) Stimulating collagen production

B) Suppressing skin cell proliferation

C) Increasing keratinocyte differentiation

D) Enhancing inflammation

E) Increasing immune response

Ans: B

Which of the following statements about Vitamin D analogues in psoriasis treatment is FALSE:

A) They exert antiproliferative effects in epidermal keratinocytes.

B) Calcitriol causes more irritation in sensitive areas.

C) Vitamin D analogues can be used alone or with topical corticosteroids.

D) Their exact mechanism is not fully understood but involves suppression of certain antigens in dendritic cells.

Ans: B

سبحان الله وبحمده سبحان الله العظيم

Which of the following statements about Acitretin and Tazarotene is FALSE:

A) Both are related to Vitamin A derivatives.

B) Acitretin should be avoided during pregnancy and for 3 years after stopping treatment.

C) Tazarotene is taken orally.

D) Acitretin is used as a last resort when other drugs are ineffective.

E) Tazarotene may cause skin irritation and peeling.

Ans: C

Which of the following side effects is NOT associated with Tazarotene:

A) Burning and stinging.

B) Hepatotoxicity.

C) Erythema (redness).

D) Localized edema (swelling).

E) Teratogenicity (can cause birth defects).

Ans: B

Acitretin

Which of the following is TRUE regarding calcineurin inhibitors like tacrolimus and pimecrolimus：

A) They are recommended for long-term use in psoriasis.

B) They can be safely used during pregnancy and breastfeeding.

C) They are particularly useful for areas of thin skin such as around the eyes.

D) They have no side effects related to cancer or lymphoma.

E) They are not effective in calming the rash or reducing scaly buildup.

Ans: C

اللهم صلِ على سيدنا محمد

Which of the following is a potential risk of long-term use of calcineurin inhibitors:

A) Liver toxicity.

B) Increased risk of skin cancer and lymphoma.

C) Kidney failure.

D) Increased risk of cardiovascular disease.

E) Weight gain.

Ans: B

Which of the following statements is FALSE about calcineurin inhibitors:

A) They are used to suppress the immune system, which is why they are helpful for organ transplant patients.

B) They are safe for use in pregnant or breastfeeding women.

C) They are applied topically to treat conditions like psoriasis.

D) They can be used around the eyes where steroids may cause irritation.

E) They reduce scaly buildup and calm rashes.

Ans: B

A patient with a chronic inflammatory skin condition was prescribed a treatment that can lead to skin atrophy if overused. However, an alternative systemic option derived from vitamin A is sometimes considered in severe cases. What are the two possible treatments, and what dietary sources could conceptually represent their names:

A) Acitretin & Prednisolone

B) Betamethasone & Acitretin

C) Hydrocortisone & Cyclosporine

D) Methotrexate & Clobetasol

Ans: B

Which of the following is the most suitable treatment for psoriasis affecting the delicate skin around the eyes :

A) Clobetasol propionate

B) Methotrexate

C) Acitretin

D) Tacrolimus

Ans: D

سبحان الله وبحمده سبحان الله العظيم

Which of the following drugs works by suppressing T-cell activation through immune suppression:

A) Pimecrolimus

B) Acitretin

C) Calcipotriol

D) Etanercept

Ans: A

Crolimus*

أستغفر الله العظيم الذي لا
إله إلا هو الحي القيوم
وأتوب إليه

Tar cream that slows skin cell growth:

A) Anthralin

B) Acitretin

C) Calcipotriol

D) Etanercept

E) Coal tar

Ans: A

Which of the following best describes the primary action of coal tar in the treatment of psoriasis:

A) Slows skin cell growth and reduces inflammation

B) Reduces scaling and itching

C) Inhibits T-cell activation

D) Increases vitamin D production in the skin

Ans: B

Which of the following drugs acts as a selective inhibitor of phosphodiesterase-4 (PDE4) and is used for psoriasis and psoriatic arthritis:

A) Tapinarof (Vtama)

B) Deucravacitinib (Sotyktu)

C) Apremilast (Otezla)

D) Etanercept

Ans: C

Milast*

Which side effect is commonly associated with Apremilast (Otezla):

A) Runny nose and sore throat

B) Nausea and diarrhea

C) Acne and sore spots in the mouth

D) Local irritation at application site

Ans: B

Also A but B is only for Apremilast

Deucravacitinib is known for inhibiting which enzyme, contributing to its effectiveness in treating moderate-to-severe psoriasis:

A) Phosphodiesterase 4 (PDE4)

B) Tyrosine Kinase 2

C) Tumor Necrosis Factor (TNF)

D) Interleukin-23

Ans: B

Which of the following drugs is a topical medication used once daily for the treatment of plaque psoriasis:

A) Apremilast

B) Roflumilast

C) Etanercept

D) Tapinarof

E) Acitretin

Ans: D

A Selective, long-acting PDE-4 inhibitor with anti-inflammatory effects

A) Apremilast

B) Roflumilast

C) Etanercept

D) Tapinarof

E) Acitretin

Ans: B

inhibits TNF-alpha production from synovial cells

A) Apremilast

B) Roflumilast

C) Etanercept

D) Tapinarof

E) Acitretin

Ans: A

What is the primary mechanism of action for Etanercept in the treatment of psoriasis:

A) It acts as an allosteric inhibitor of tyrosine kinase.

B) It inhibits phosphodiesterase-4 (PDE4) to reduce inflammation.

C) It normalizes the skin barrier and provides antioxidant activity.

D) It is a dimeric fusion protein that binds TNF receptor to reduce inflammation.

Ans: D

For each of the following statements, write the correct drug in front of it.
Apremilast - Tapinarof - Deucravacitinib - Etanercept - Roflumilast

1. Treats ankylosing spondylitis.
2. Treats chronic plaque psoriasis.
3. Treats moderate to severe plaque psoriasis.
4. Has activity in skin barrier normalization and antioxidant activity.
5. Has adverse effects including sore spots on the mouth.

Ans:

1. Etanercept
2. Roflumilast
3. Deucravacitinib
4. Tapinarof
5. Deucravacitinib

Which drug is used to treat vitiligo:

A) Trioxsalen

B) Methoxsalen

C) Hydroquinone

D) Monobenzone

E) Mequinol

F) Acitretin

Ans: A ,B ,D, E

أستغفر الله العظيم الذي لا
إله إلا هو الحي القيوم
وأتوب إليه

Which drug needs to be activated by UV light to work:

A) Trioxsalen

B) Methoxsalen

C) Hydroquinone

D) Monobenzone

E) Mequinol

Ans: A + B

Oxasalen*

Which drug causes permanent depigmentation of the skin：

A) Trioxsalen

B) Methoxsalen

C) Hydroquinone

D) Monobenzone

E) Mequinol

Ans: D

Which drug reduces hyperpigmentation by inhibiting the enzyme tyrosinase :

A) Trioxsalen

B) Methoxsalen

C) Hydroquinone

D) Monobenzone

E) Mequinol

Ans: C + E

Which drug can cause cataracts and skin cancer with prolonged use :

A) Trioxsalen

B) Methoxsalen

C) Hydroquinone

D) Monobenzone

E) Mequinol

Ans: A + B

Oxasalen*

Which drug is Toxic to melanocytes :

A) Trioxsalen

B) Methoxsalen

C) Hydroquinone

D) Monobenzone

E) Mequinol

Ans: D

Summary : Psoriasis drugs

Drug Name	Category	Category	Mechanism of Action	Properties	Adverse Effects
Topical Corticosteroids **Hydrocortisone** **Methyl / prednisolone** **Dexa/ Beta methasone** **Triamcinolone - Fluocinonide**	Anti-inflammatory	Topical	Phospholipase A2 inhibition	reduces flare-ups, suppresses localized inflammation sensitive areas (face, skin folds, treating widespread patches)	Skin atrophy, Erythema Acne - infections Hypopigmentation allergic contact dermatitis pituitary-adrenal axis suppression tolerance with prolonged use
Acitretin - Retinoid	Anti-inflammatory antiproliferative	Oral		Last resort for severe cases of psoriasis	Hepatotoxic, Teratogenic not to be used during 🤰 for 3 years after stopping treatment
Tazarotene - Retinoid	Anti-inflammatory antiproliferative	Topical		used for severe psoriasis	Teratogenic, burning, stinging, peeling, erythema, localized edema
Calcineurin Inhibitors **(Ta / Pime crolimus)**	Immunosuppressant	Topical	Suppresses T-cell activation ⬇️ scaly buildup, calm rash	Useful for thin skin (around eyes)	⬆️ risk of skin cancer & lymphoma, ❌ during 🤰 or breastfeeding
Vitamin D Derivative **(Calcipotriene, Calcitriol)**	Antiproliferative	Topical	Suppresses CD40, CD80, MHC II expression in dendritic cells slows keratinocyte growth	differentiation-inducing in psoriatic skin	Local irritation (mainly for calcipotriene), may cause burning or stinging
Salicylic Acid	Anti-inflammatory Keratolytic	Topical	break down scales ⬇️ scaling of the scalp.	can be combined with other topical treatments.	Skin irritation messes with clothes & bedding strong odor.
Coal Tar	anti-inflammatory	Topical	⬇️ skin cell proliferation, ⬇️ itching, scaling, inflammation	Available in various forms like shampoos, creams, oils.	Skin irritation staining of clothing & bedding strong odor.
Anthralin	Anti-inflammatory Anti-proliferative Keratolytic	Topical	Slows skin cell growth removes scalesand = smoothens skin.		Skin irritation Stains skin & clothes potential irritation if used for too long.

Summary : Psoriasis New drugs

Drug	Indication	Mechanism of Action (MOA)	Side Effects
Apre - milast	1. Psoriasis 2. Psoriatic arthritis 3. possibly other immune-related diseases	Selective inhibitor of phosphodiesterase 4 (PDE4), inhibits TNF-alpha production from synovial cells	1. Stomach pain,Diarrhea,nausea vomiting 2. Sore throat, runny nose, congestion, cough, fever, sneezing headache
Deucravacitinib	Moderate-to-severe plaque psoriasis	Allosteric inhibitor of tyrosine kinase 2	1. Sore throat,Runny nose, congestion 2. Sore spots on : mouth, lips, gums, tongue, roof of mouth, acne
Roflu - milast cream	Chronic plaque psoriasis	Selective, long-acting PDE-4 inhibitor with anti-inflammatory effects	
Tapinarof	Plaque psoriasis in adults it's only applied once daily	Immune modulation skin-barrier normalization Antioxidant activity	
Etanercept	1. Psoriasis 2. psoriatic arthritis 3. Ankylosing spondylitis	Dimeric fusion protein of TNF receptor linked to Fc portion of human IgG1	

Summary : Agents affecting Pigmentation

Drug	Indication	Mechanism of Action (MOA)	Side Effects
Trioxsalen & Methoxsalen **Oxsalen**	Repigmentation of depigmented macules of vitiligo	Photoactivated by long-wave UV light (320-400nm) to intercalate with DNA	Cataract, skin cancer
Hydroquinone & Mequinol	Hyperpigmentation of the skin	Inhibits tyrosinase, interfering with melanin biosynthesis	Possible irritation skin redness
Monobenzone	Depigmentation (for vitiligo)	Toxic to melanocytes, causes permanent depigmentation	Permanent depigmentation skin irritation

"ما شاء الله لا قوة إلا بالله"

Additional Q

Lecture 4
Drugs for Gout

Which of the following joints is most commonly affected in an acute gout attack:

A) Knee

B) Big toe

C) Elbow

D) Wrist

Ans: B

A 50-year-old man with a history of gout presents with severe pain and swelling in his first metatarsophalangeal joint. What is the most likely mechanism responsible for his symptoms：

A) Autoimmune destruction of synovial membrane

B) Osteophyte formation due to degenerative joint disease

C) Infection with Staphylococcus aurora

D) Deposition of monosodium urate crystals in the joint

Ans: D

Which of the following cytokines plays a major role in acute gouty arthritis inflammation :

A) Tumor Necrosis Factor-alpha (TNF-α)

B) Interleukin-1 (IL-1)

C) Interleukin-6 (IL-6)

D) Interferon-gamma (IFN-γ)

Ans: B

اللهم صلِ على سيدنا محمد

Which type of white blood cell is predominantly involved in the early phase of an acute gout attack:

A) Lymphocytes

B) Monocytes

C) Polymorphonuclear leukocytes (PMNs)

D) Eosinophils

E) Neutrophil

Ans: C=E

A 45-year-old man presents with sudden onset of severe pain, redness, & swelling in his right first metatarsophalangeal joint at night. He has had similar episodes before. Which of the following findings would be LEAST consistent with this condition:

A) Intense neutrophilic infiltration in synovial fluid

B) Radiographic evidence of marginal bony erosions

C) Symmetric joint involvement in the hands and wrists

D) Elevated serum uric acid levels

Ans: C

Which of the following statements regarding uric acid metabolism and crystal-induced inflammation in humans is CORRECT:

A) Humans convert uric acid into allantoin via uricase, which prevents crystal formation.

B) Hyperuricemia results only from increased purine intake, not decreased excretion.

C) Polymorphonuclear leukocytes are recruited after cytokine release and prevent inflammation.

D) Synoviocytes play a key role in initiating inflammation by engulfing urate crystals and releasing cytokines.

Ans: D

Which of the following correctly represents the sequence of events in crystal-induced inflammation, such as in acute gout:

A) Hyperuricemia → cytokine release → crystal deposition → PMN influx → inflammation

B) Crystal deposition → protein binding → receptor activation → cytokine release → PMN influx → crystal engulfment → inflammation

C) Crystal deposition → inflammation → receptor binding → protein binding → PMN influx → cytokine release → crystals engulfed

D) Hyperuricemia → PMN influx → receptor binding → protein binding → crystal engulfment → inflammation

Ans: B

سبحان الله وبحمده سبحان الله العظيم

At the patient with gout , small to moderate doses of aspirin may inhibit uric acid excretion

A) True

B) Fulse

Ans: A

All of the following statements about gouty arthritis are TRUE EXCEPT:

A) Gout is more common in middle-aged males.

B) High purine intake, such as red meat, can trigger gout attacks.

C) Hyperuricemia is sufficient to diagnose gout.

D) Impaired renal excretion of uric acid contributes to the development of gout.

Ans: C

Which of the following statements about chronic tophaceous gout is CORRECT:

A) It is an acute condition characterized by transient joint inflammation only.

B) Tophi are localized deposits of monosodium urea crystals.

C) Tophi are soft, mobile masses of calcium crystals found commonly in the big toe.

D) It is typically asymptomatic and causes no disfigurement.

E) It is a chronic form of gout with nodular deposits of monosodium urate in tissues.

Ans: E

B ✗ urate *

Which of the following radiologic findings is most characteristic of chronic tophaceous gout in the distal interphalangeal joints:

A) Joint space widening with periarticular sclerosis

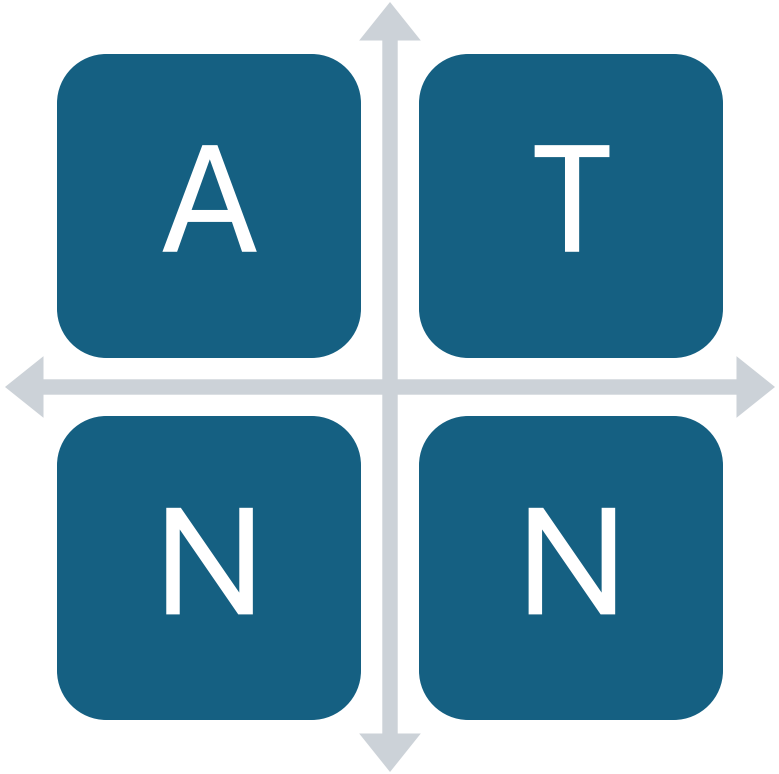
B) Bony erosions with cyst formation in phalangeal bones

C) Osteophyte formation with joint fusion

D) Subchondral sclerosis without erosions

Ans: B

Conditions associated with elevated uric acid levels :



Ans:
Arthritis
Tophi
Nephrolithiasis
Nephropathy

Arrange the following processes of renal handling of uric acid in the correct order:

1.Glomerular filtration 2.Tubular reabsorption

3.Tubular excretion 4.Post-secretory reabsorption

which step would you target to help reduce uric acid levels in gouty arthritis?

A) 1 → 2 → 3 → 4 Inhibit 2 + 4

B) 2 → 1 → 4 → 3 Inhibit 1 + 2

C) 1 → 3 → 2 → 4 Inhibit 3 + 1

D) 4 → 1 → 2 → 3 Inhibit 3 + 1

E) 2 → 4 → 1 → 3 Inhibit 2 + 4

Ans: A

Which of the following is the correct sequence in the metabolism of purines that leads to the formation of uric acid:

A) Purines → xanthine oxidase → Hypoxanthine → xanthine oxidase →Xanthine → Uric acid

B) Purines → Uric acid → xanthine oxidase → Hypoxanthine → xanthine oxidase → Xanthine

C) Hypoxanthine → xanthine oxidase → Uric acid → xanthine oxidase → Xanthine → Purines

D) Purines → Hypoxanthine → xanthine oxidase → Xanthine → xanthine oxidase → Uric acid

E) Xanthine → xanthine oxidase → Uric acid → xanthine oxidase → Hypoxanthine → Purines

Ans: D

Which of the following statements regarding the treatment of acute gouty arthritis is correct:

A) Aspirin is commonly used in the initial treatment of gouty arthritis at low doses.

B) Indomethacin can inhibit urate crystal phagocytosis and is commonly used in the initial treatment of acute gout.

C) Aspirin, when used at high doses, retains uric acid and worsens the condition.

D) Colchicine is the first-line treatment for gout and is always preferred over NSAIDs.

Ans: B

Which of the following statements about colchicine is correct :

A) Colchicine is an analgesic that reduces pain in gouty arthritis, similar to NSAIDs.

B) Colchicine lowers the serum uric acid level, making it effective in treating gout.

C) Colchicine is only effective in treating gouty arthritis and does not affect the renal excretion of uric acid.

D) Colchicine increases the solubility of uric acid in plasma, helping in its excretion.

E) High doses prevent recurrent while Low doses treat acute gouty arthritis

Ans: C

Which of the following best describes the mechanism of action of colchicine in the treatment of gouty arthritis:

A) Colchicine inhibits the synthesis of uric acid, lowering serum levels and preventing crystal deposition in joints.

B) Colchicine prevents the polymerization of tubulin, disrupting microtubule formation, which inhibits phagocytosis and reduces inflammation in gouty arthritis.

C) Colchicine directly inhibits the renal reabsorption of uric acid, promoting its excretion and reducing crystal formation.

D) Colchicine blocks the production of leukotrienes, reducing the inflammatory response in gouty arthritis.

Ans: B

سبحان الله وبحمده سبحان الله العظيم

All of the following steps in the inflammatory cascade are inhibited by colchicine EXCEPT:

A. Chemotaxis of neutrophils
B. Phagocytosis of urate crystals by neutrophils
C. Degranulation of neutrophils
D. Phagocytosis of urate crystals by macrophages

Ans: D

What is the first-line drug used in the treatment of acute gouty arthritis:

A) Colchicine

B) Indomethacin

C) Allopurinol

D) Aspirin

E) Prednisone

Ans: B

اللهم صلِ على سيدنا محمد

Which of the following is NOT used in the acute management of gout:

A. Colchicine

B. Indomethacin

C. Allopurinol

D. Ibuprofen

E. Naproxen

Ans: C

Why is aspirin not used for the treatment of acute gout：

A. It increases uric acid solubility

B. It enhances uric acid excretion

C. It causes uric acid retention at low doses

D. It has anti-inflammatory effects

E. It inhibits xanthine oxidase

Ans: C

Which of the following gout medications is most commonly associated with severe cutaneous adverse reactions such as Stevens-Johnson syndrome or toxic epidermal necrolysis

A. Colchicine

B. Indomethacin

C. Allopurinol

D. Probenecid

E. Febuxostat

Ans: C

Choose 2 or more

Which of the following side effects of colchicine is most likely to occur due to its impact on microtubule polymerization, especially in rapidly dividing cells :

A) Hepatic necrosis

B) Thrombocytopenia

C) Acute renal failure

D) Leukopenia

E) Hyperuricemia

Ans: B + D

Which of the following statements about colchicine is incorrect:

A) Colchicine should be used at high doses to treat acute gouty arthritis.

B) Colchicine is useful for daily prophylaxis in preventing recurrent gout attacks at low doses.

C) Colchicine can worsen or bring on an acute gout attack when starting urate-lowering therapy.

D) Colchicine is not indicated for managing acute gout after the first attack.

E) Colchicine works by blocking uric acid production and enhancing excretion.

Ans: A

Which of the following statements about urate-lowering therapy in gout is correct :

A) Urate-lowering therapy is recommended immediately after the first acute gout attack to prevent future attacks.

B) These drugs have a direct role in managing acute gouty arthritis once symptoms are present.

C) Urate-lowering therapy prevents arthritis, tophi, stones by increasing the total body pool of uric acid.

D) Urate-lowering drugs should be started immediately after the first acute gout attack to avoid further inflammation.

E) Urate-lowering drugs can worsen an acute gout attack if used during the first attack.

Ans: E

Which of the following drugs works by inhibiting microtubule polymerization, leading to decreased PMN migration:

A. Allopurinol

B. Febuxostat

C. Indomethacin

D. Colchicine

E. Pegloticase

Ans: D

Allopurinol exerts its therapeutic effect in gout primarily by:

A. Inhibiting renal tubular reabsorption of uric acid

B. Enhancing the metabolism of uric acid into allantoin

C. Blocking the formation of uric acid via xanthine oxidase inhibition

D. Binding urate crystals and enhancing their clearance

E. Inhibiting leukocyte migration into the joints

Ans: C

A patient is started on allopurinol and develops a skin rash, fever, and mucous membrane erosions. What is the most concerning complication :

A. Urticaria

B. Toxic epidermal necrolysis (TEN)

C. Erythema multiforme

D. Contact dermatitis

E. Vasculitis

Ans: B

سبحان الله وبحمده سبحان الله العظيم

Which of the following side effects is commonly associated with colchicine toxicity :

A. Cough

B. Rash

C. Hypertension

D. Diarrhea

E. Bradycardia

Ans: D

Which of the following is most likely to occur following the initiation of allopurinol therapy in a patient with chronic gout:

A. Decreased serum uric acid with immediate resolution of joint pain

B. Mobilization of urate crystals triggering acute gout attack

C. Permanent remission of gout with first dose

D. Reduction in renal clearance of uric acid

E. Inhibition of neutrophil chemotaxis

Ans: B

Which of the following patients is most at risk for developing allopurinol hypersensitivity syndrome：

A. A healthy male with G6P deficiency

B. A patient with liver cirrhosis

C. A patient taking colchicine concurrently

D. A child with febrile illness

E. A patient with impaired renal function

Ans: B

أستغفر الله العظيم الذي لا
إله إلا هو الحي القيوم
وأتوب إليه

What is the mechanism of action of pegloticase:

A. Inhibits xanthine oxidase

B. Increases uric acid renal clearance

C. Converts uric acid to allantoin

D. Inhibits reabsorption of uric acid in proximal tubule

E. Stimulates uric acid binding proteins

Ans: C

Which of the following is TRUE regarding febuxostat:

A. It is a recombinant uricase derived from pigs

B. It causes more severe hypersensitivity reactions compared to allopurinol

C. It is an oral xanthine oxidase inhibitor and well-tolerated in allopurinol-sensitive patients

D. It is used exclusively in treatment-resistant gout

E. It increases uric acid excretion through the kidney

Ans: C

Pegloticase should be avoided in patients with which of the following conditions:

A. Renal insufficiency

B. Glucose-6-phosphate dehydrogenase deficiency

C. Liver cirrhosis

D. History of gouty nephropathy

E. Diabetes mellitus

Ans: B

اللهم صلِ على سيدنا محمد

Which of the following best explains the role of PEG in pegloticase:

A. Reduces immunogenicity and increases drug half-life

B. Speeds up resolution of inflammation

C. Enhances renal excretion of uric acid

D. Inhibits uricase enzyme to prevent H_2O_2 formation

E. Helps uricase cross the blood-brain barrier

Ans: A

Which of the following is NOT a known side effect of pegloticase:

A. Infusion-related reactions

B. Gout flares in first 3 months

C. Muscle pain and spasms

D. Toxic epidermal necrolysis

E. Peripheral edema

Ans: D

Which of the following drugs enhances the renal excretion of uric acid by inhibiting its reabsorption in the proximal tubule:

A. Allopurinol

B. Febuxostat

C. Colchicine

D. Pegloticase

E. Probenecid

Ans: E

Which of the following most accurately distinguishes febuxostat from allopurinol:

A. Febuxostat is more effective but less tolerated

B. Febuxostat has a completely different mechanism of action

C. Febuxostat is chemically different but same mechanism, and better tolerated in sensitive patients

D. Febuxostat causes more severe hypersensitivity reactions

E. Febuxostat is contraindicated in gout associated with chemotherapy

Ans: C

A 55-year-old male with frequent gouty attacks is considered for uricosuric therapy. Which of the following is true regarding Probenecid :

A. It is effective in patients with renal insufficiency

B. It lowers uric acid by inhibiting its production

C. It decreases urine uric acid concentration

D. It increases the risk of nephrolithiasis

E. It is more effective in elderly patients

Ans: D

أستغفر الله العظيم الذي لا
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وأتوب إليه

Acute gout presents as painful inflammation of the big two which is referred to as podagra. What is an acute treatment for gout:

A. Allopurinol

B. Febuxostat

C. Colchicine

D. Pegloticase

E. Probenecid

Ans: C

A 55-year-old male presents to the clinic with a severe acute gout attack. He has a history of multiple episodes per year and has shown poor response to NSAIDs and colchicine. His renal function is mildly impaired. Which of the following agents would be the most appropriate next step in his treatment by targeting the interleukin-1 pathway:

A. Allopurinol
B. Canakinumab
C. Anakinra
D. Febuxostat
E. Rilonacept

Ans: B,C,E

Kin,cept

سبحان الله وبحمده سبحان الله العظيم

Which of the following routes can be used for the administration of Prednisone in the treatment of acute gout:

A. Oral, Intra-articular, Subcutaneous

B. Only Oral

C. Intravenous only

D. Inhalation and Topical only

E. Subcutaneous and Intravenous only

Ans: A

Summary : Acute Arthritis Drugs

Drug	Indication	(MOA)	Side Effects
NSAIDs	Indomethacin 25-50 mg 4 TD for 5– 7 days Ketoprofen 75 mg 4 TD Ibuprofen 800 mg 4 TD Naproxen 500 mg 2 TD Sulindac 200 mg 2 TD	Indomethacin inhibits urate crystal phagocytosis. Most NSAIDs have this property except aspirin. - Indomethacin as First-Line Aspirin : Not used in acute gout due to renal retention of uric acid at low doses	Aspirin : Low doses (<2.6 grams/D) renal retention of uric acid high doses (>3.6 grams/D) uricosuric
Colchicine **A plant alkaloid from Colchicum autumnale (Autumn Crocus/ Meadow Saffron)**	Only effective in gouty arthritis. Not an analgesic. Does not affect : - Renal excretion - Plasma solubility of uric acid - Serum uric acid levels High Dose: Treatment of acute gouty arthritis Low Dose: Prevention of recurrent gouty arthritis More useful for daily prophylaxis (low dose), Colchicine 0.6 mg – twice daily.	Inhibits microtubule polymerization by binding to tubulin, ⬇ inflammatory response to deposited crystals. ⬇ PMN phagocytosis of crystals. Blocks cellular response to deposited crystals. Prevents synoviocytes from engulfing urate crystals, preventing cytokine release, influx of PMNs, propagation of inflammation.	**Toxicity :** GI : Nausea,vomiting,cramping, diarrhea, abdominal pain. Hematologic: Agranulocytosis, aplastic anemia, thrombocytopenia,Muscular weakness **Side Effects:** Dose-related,Common in patients with renal or hepatic disease. Affects blood-forming cells due to inhibition of microtubule polymerization, impacting platelet, RBC,WBC replication. (Leukopenia)

Summary : Acute Arthritis Drugs

Drug	Indication	(MOA)	Side Effects	
Allopurinol	Oral - category C available in 100 & 300 mg Uses 1. Hyperuricemia in : gout / chemotherapy-related 2. Prevent recurrent calcium oxalate stones (kidney stone)	Xanthine oxidase inhibitor blocks uric acid formation	Common: 1. Diarrhea, nausea, rash 2. Abnormal liver tests 3. Acute gout attacks Serious : 1. Fever & rash 2. Toxic epidermal necrolysis 3. Hepatotoxicit 4. Marrow suppression 5. Vasculitis 6. Drug interactions (ampicillin, thiazides,mercaptopurine,azathioprine) 7. Death	Additional Effects : Necrotizing vasculitis, bone marrow suppression, aplastic anemia (rare), hepatic toxicity, interstitial nephritis, exfoliative dermatitis maculopapular rash in 3%, cataract (rare). Hypersensitivity: starts with rash, more common with renal impairment; can progress to TEN and death.
Febuxostat	Better tolerated in allopurinol-sensitive patients 94% achieved urate <6.0 mg/dL,	New xanthine oxidase inhibitor	minimal side effects (diarrhea, headache, nausea)	chemically different but same mechanism compared to Allopurinol
Pegloticase	Recombinant porcine uricase (IV) PEG conjugate to prolong half-life ↓ immunogenicity ↓ urate quickly (24–72h)	Treat - resistant gout.	1. Infusion reactions, 2. Gout flares (esp. first 3 months) 3. Nephrolithiasis, UTI, RTI 4. Arthralgia,muscle pain/spasm, 5. Headache, anemia, nausea, ,diarrhea, peripheral edema.	Avoid in G6PD deficiency (risk of H_2O_2 production) PEG helps reduce immune response.

Summary : urate-lowering drug - Uricosuric therapy

Category	Details
Drug Name	**Probenecid**
Mechanism of Action	- Blocks tubular reabsorption of uric acid - Enhances urine uric acid excretion - ↑ urine uric acid level - ↓ serum uric acid level
Indications	- **Tophaceous gout** - **Frequent gouty attacks**
Effectiveness	- Moderately effective - **Less effective in elderly patients**
Contraindications	- History of **nephrolithiasis** - Elevated urine uric acid level - Existing renal disease
Adverse Effects	- Mild GI irritation - Increased risk of nephrolithiasis (kidney stones)
Additional Notes	- Not used in patients with renal disease - May not be effective in patients with large uric acid secretion or renal disease
Side Effects	- Frequent, but mild side effects

"ما شاء الله لا قوة إلا بالله"

Additional Q

Lecture 5
Antiviral drug of skin

اللهم صلِ على سيدنا محمد

Which of the following viral infections is most likely to remain dormant in nerve ganglia and reactivate later in life

A. Influenza
B. Rubella
C. Herpes simplex
D. Hepatitis C

Ans: C

A 30-year-old man recovered from chickenpox in childhood. He now presents with a painful vesicular rash along a dermatome. Which best describes the pattern of this viral infection

A. Acute infection
B. Latent infection
C. Chronic infection
D. Subclinical infection

Ans: B

Which of the following is the main feature of an acute viral infection

A. Viral replication without symptoms
B. Continuous viral replication for years
C. Complete viral clearance by immune system
D. Persistence of virus in a latent form

Ans: C

سبحان الله وبحمده سبحان الله العظيم

Hepatitis C virus is best described as causing which type of infection

A. Chronic
B. Latent
C. Acute
D. Subacute

Ans: A

Which drug inhibits viral DNA polymerase without requiring bioactivation

A. Acyclovir
B. Valacyclovir
C. Foscarnet
D. Famciclovir

Ans: C

Which of the following best differentiates latent infections from chronic infections

A. Presence of symptoms during latency
B. Ongoing viral replication in latent infections
C. Viral clearance in chronic infections
D. Periodic reactivation in latent infections

Ans: D

أستغفر الله العظيم الذي لا
إله إلا هو الحي القيوم
وأتوب إليه

What is the main advantage of valacyclovir over acyclovir for oral use

A. It’s cheaper
B. It causes fewer side effects
C. It’s better absorbed and needs less frequent dosing
D. It can be used IV

Ans: C

Which of the following antiviral agents is the only one available for intravenous use in the United States

A. Valacyclovir
B. Acyclovir
C. Famciclovir
D. Oseltamivir

Ans: B

سبحان الله وبحمده سبحان الله العظيم

Which of the following nucleoside analogs is a prodrug that is converted into acyclovir in the body

A. Valacyclovir
B. Foscarnet
C. Ganciclovir
D. Lamivudine

Ans: A

Which two drugs have shown better efficacy than acyclovir in treating Herpes Zoster (shingles) and require less frequent dosing

A. Acyclovir and Valacyclovir
B. Valacyclovir and Oseltamivir
C. Famciclovir and Acyclovir
D. Valacyclovir and Famciclovir

Ans: D

What is the main mechanism by which nucleoside analogs inhibit viral replication

A. They block viral entry into the host cell
B. They enhance immune recognition of infected cells
C. They incorporate into viral DNA and terminate synthesis
D. They inhibit host cell protein synthesis

Ans: C

Which of the following best explains the selective activation of Acyclovir in virus-infected cells

A. It binds only to viral DNA
B. It requires cellular kinases only
C. It is a non-nucleoside analogue
D. It is phosphorylated first by viral thymidine kinase

Ans: D

For recurrent herpes proctitis in an HIV-positive adult, which route of Acyclovir is appropriate

A. Intravenous
B. Oral
C. Topical
D. Rectal

Ans: B

What is the primary mechanism of action of Acyclovir after conversion to its triphosphate form

A. Inhibits protein synthesis
B. Inhibits DNA polymerase and causes chain termination
C. Activates reverse transcriptase
D. Stimulates immune response

Ans: B

لا إله إلا أنت سبحانك
إني كنت من الظالمين

Which of the following is TRUE regarding the antiviral drug Foscarnet

A. It is a guanosine analogue
B. It requires viral thymidine kinase for activation
C. It directly inhibits viral DNA polymerase without phosphorylation
D. It causes resistance by chain termination

Ans: C

أستغفر الله العظيم الذي لا
إله إلا هو الحي القيوم
وأتوب إليه

Which of the following conditions is best managed with oral Acyclovir

A. Neonatal HSV infection
B. Severe disseminated HSV
C. Orolabial herpes
D. Herpes encephalitis

Ans: C

Acyclovir is most potent against which of the following viruses

A. Cytomegalovirus
B. HSV-1 and HSV-2
C. Human herpesvirus 6
D. Epstein-Barr virus

Ans: B

Why is a higher dose of Acyclovir required for treating VZV compared to HSV

A. VZV is less sensitive to Acyclovir
B. VZV has more DNA polymerases
C. Acyclovir cannot cross the blood-brain barrier
D. VZV is more rapidly replicating

Ans: A

اللهم صلِ على سيدنا محمد

What is one mechanism by which herpesviruses develop resistance to Acyclovir

A. Increased production of DNA polymerase
B. Deletion or mutation of viral thymidine kinase
C. Activation of host kinases
D. Overexpression of viral envelope proteins

Ans: B

What is the primary route of elimination of Acyclovir from the body

A. Hepatic metabolism
B. Pulmonary excretion
C. Glomerular filtration
D. Biliary excretion
E. tubular secretion

Ans: C,E

Valacyclovir is preferred over oral Acyclovir because:

A. It is cheaper
B. It has fewer side effects
C. It does not require conversion in the liver
D. It achieves higher blood levels
E. It achieves better compliance

Ans: D,E

Valacyclovir achieves higher plasma concentrations than oral Acyclovir because:

A. It bypasses the liver
B. It is administered intravenously
C. It undergoes first-pass conversion to Acyclovir
D. It is resistant to metabolic degradation

Ans: C

Which of the following best explains the use of once-daily Valacyclovir in genital herpes

A. To reduce the severity of primary infection only
B. To reduce side effects of Acyclovir
C. To prevent bacterial superinfection
D. To reduce sexual transmission risk by chronic suppression

Ans: D

Which of the following best explains the need for frequent dosing of oral Acyclovir

A. It has poor CNS penetration
B. It has a short half-life
C. It causes severe GI side effects
D. It is rapidly metabolized in the liver

Ans: B

أستغفر الله العظيم الذي لا
إله إلا هو الحي القيوم
وأتوب إليه

What is the main reason oral Ganciclovir is not preferred

A. Hepatic toxicity
B. Low oral bioavailability
C. Poor CNS penetration
D. Resistance development

Ans: B

A 2-year-old immunocompromised child develops zoster. Which route of Acyclovir is most appropriate

A. Oral
B. Topical
C. Intravenous
D. Subcutaneous

Ans: C

In which of the following patients is Acyclovir resistance most commonly observed

A. Healthy adults with cold sores
B. Children with chickenpox
C. Immunocompromised individuals
D. Patients with bacterial co-infections

Ans: C

A 5-year-old child presents with varicella (chickenpox). Which is the most appropriate route of administration for Acyclovir

A. Intravenous
B. Oral
C. Topical
D. Intramuscular

Ans: B

Which of the following mechanisms contributes to Acyclovir resistance

A. Enhanced drug absorption
B. Increased thymidine kinase activity
C. Mutated viral DNA polymerase
D. Accelerated renal clearance

Ans: C

Topical acyclovir is most suitable for:

A. Treating varicella in children
B. Herpes encephalitis
C. Suppression of genital herpes in HIV
D. Herpes labialis

Ans: D

Which of the following is a known side effect of intravenous Acyclovir, especially in dehydrated patients

A. Liver cirrhosis
B. Retinal detachment
C. Renal dysfunction
D. Cardiac arrhythmia

Ans: C

Which condition requires intravenous Acyclovir as the preferred route due to severity

A. Herpes labialis
B. Herpes encephalitis
C. Orolabial herpes
D. Herpes proctitis

Ans: B

Fill the box

- First episode genital herpes trx
- Recurrent genital herpes trx
- Genital herpes in the HIV-infected host trx
- Mucocutaneous herpes in the IMC host trx
- Genital herpes suppression in the HIV-infected host
- Herpes labiallis trx
- Herpes proctitis trx
- Varicella – Zoster in IMC
- Orolabial herpes trx
- Herpes encephalitis trx
- Varicella trx (age ≥ 2 years)
- Neonatal HSV infection trx
- Severe HSV trx
- Zoster trx

Orally	**IV**	**Topical**
8	5	**1**

Ans: next page

Ans:

Fill the box

Orally	**IV**	**Topical**
1. First episode **genital** herpes trx 2. Recurrent **genital** herpes trx 3. **Genital** herpes in the HIV-infected host trx 4. **Genital** herpes suppression in the HIV-infected host **5. Herpes proctitis trx** **6. Varicella trx (≥ 2 years)** **7. Orolabial herpes trx** **8. Zoster trx**	1. Mucocutaneous herpes in the **IMC** host trx 2. Varicella – Zoster in **IMC** 3**. Herpes encephalitis trx** **4. Neonatal HSV infection trx** **5. Severe HSV trx**	**Herpes labiallis trx**

Valacyclovir is a prodrug of which antiviral agent

A. Acyclovir
B. Ganciclovir
C. Foscarnet
D. Famciclovir

Ans: A

Which of the following is an approved indication for Valacyclovir

A. Hepatitis B
B. Cytomegalovirus retinitis
C. Recurrent genital herpes
D. Epstein-Barr virus

Ans: C

What is the mechanism of action of Foscarnet

A. Activation by viral thymidine kinase
B. Inhibition of protease enzyme
C. Competitive inhibition of viral DNA and RNA polymerase
D. Blockage of viral attachment to host cells

Ans: C

What is the primary mechanism of action of Vidarabine

A. Protease inhibition
B. Neuraminidase inhibition
C. DNA polymerase inhibition and chain termination
D. Reverse transcriptase inhibition

Ans: C

Which of the following best describes the mechanism of action of Ganciclovir

A. Reverse transcriptase inhibition
B. Fusion inhibition
C. DNA polymerase inhibition via triphosphorylation activation
D. Integrase inhibition

Ans: C

اللهم صلِ على سيدنا محمد

Foscarnet is primarily indicated in which of the following scenarios

A. Primary varicella infection in healthy children
B. Influenza A infection
C. Acyclovir-resistant HSV and CMV retinitis in IMC patients
D. EBV mononucleosis in IMC patients

Ans: C

Which of the following is NOT a characteristic of Foscarnet

A. Requires activation by viral kinases
B. Poor oral bioavailability
C. Administered intravenously
D. Eliminated by renal excretion

Ans: A

Which adverse effect is most commonly associated with Foscarnet

A. Hepatotoxicity
B. Nephrotoxicity
C. Ototoxicity
D. Bone marrow suppression

Ans: B

A 40-year-old HIV patient with CMV retinitis is being treated with Foscarnet. Which electrolyte abnormality is MOST likely

A. Hypercalcemia
B. Hypernatremia
C. Hypocalcemia
D. Hyperkalemia

Ans: C

Which of the following viruses is NOT typically targeted by Vidarabine

A. HSV
B. VZV
C. Influenza A
D. Vaccinia

Ans: C

اللهم صلِ على سيدنا محمد

Vidarabine is currently limited to which route of administration

A. Oral
B. Intravenous
C. Topical
D. Intramuscular

Ans: C

Which of the following antiviral drugs carries a black box warning due to its potential for bone marrow suppression, carcinogenicity, and teratogenicity

A. Acyclovir
B. Valacyclovir
C. Foscarnet
D. Vidarabine
E. Ganciclovir

Ans: E

Before the discovery of acyclovir, Vidarabine was used to treat which condition

A. HIV
B. CMV retinitis
C. Herpes simplex encephalitis
D. Influenza B

Ans: C

In immunocompromised patients, Vidarabine is mainly used to treat:

A. Viral hepatitis
B. Vaccinia
C. Bacterial conjunctivitis
D. Fungal corneal ulcers
E. herpetic keratitis

Ans: B,E

Ganciclovir is considered the drug of choice for which of the following

A. HSV-2 genital herpes
B. VZV infection
C. CMV retinitis
D. HIV encephalopathy

Ans: C

اللهم صلِ على سيدنا محمد

Which serious hematologic adverse effect is most commonly associated with Ganciclovir

A. Hemolytic anemia
B. Leukopenia
C. Pancytopenia
D. Eosinophilia

Ans: B

Which of the following is a contraindication for Ganciclovir use

A. Diabetes
B. Pregnancy
C. Hypertension
D. Hypothyroidism

Ans: B

Antiviral drugs  Acyclovir  Valacyclovir  Foscarnet

Orally	IV	Topical	Orally	IV ONLY
1. First episode **genital** herpes trx 2. Recurrent **genital** herpes trx 3. **Genital** herpes in the HIV-infected host trx 4. **Genital** herpes suppression in the HIV-infected host **5. Herpes proctitis trx** **6. Varicella trx (≥ 2 years)** **7. Orolabial herpes trx** **8. Zoster trx**	1. Mucocutaneous herpes in the **IMC** host trx 2. Varicella – Zoster in **IMC** **3. Herpes encephalitis trx** **4. Neonatal HSV infection trx** **5. Severe HSV trx**	**Herpes labiallis trx**	1. First episode **genital** herpes trx 2. Recurrent **genital** herpes trx 3. **Genital** herpes in the HIV-infected host trx 4. **Genital** herpes suppression in the HIV-infected host **5. Herpes proctitis trx** **6. Varicella trx (≥ 12 years)** **7. Orolabial herpes trx** **8. Zoster**	**Acyclovir resistant HSV – VZV infection**

Summary : Antiviral drugs

Drug	MOA	Activation	Uses	Resistance	Adverse Effects	Route	Notes
Acyclovir	Inhibits viral DNA polymerase & causes chain termination	Needs 3 phosphorylations: 1st by viral thymidine kinase, then cellular kinases	HSV-1,2 more active VZV less active limited use EBV, CMV	1. ↓ Thymidine kinase 2. Altered DNA polymerase	Oral: Nausea, headache IV: Nephrotoxicity (esp. dehydration) Topical: irritation	Oral, IV, Topical	Selective activation in infected cells only
Valacyclovir	Same as acyclovir	Prodrug of acyclovir	Genital herpes (1st/recurrent), suppression, orolabial herpes, varicella, zoster	Same as acyclovir	Similar to acyclovir, better compliance (once daily)	Oral only	Achieves levels close to IV acyclovir (less doses needed)
Foscarnet	Competitive inhibition of viral DNA and RNA polymerase	No activation needed Directly	- CMV retinitis (esp. in HIV) - Acyclovir-resistant HSV	Mutated DNA polymerase	Nephrotoxicity (25%), hypocalcemia, hypomagnesemia, seizures, arrhythmias	IV only	Pyrophosphate analog 10% deposits in bone
Vidarabine	Selectively inhibits viral DNA polymerase, chain terminator		- Severe HSV - keratitis - keratoconjunctivitis		Limited due to side effects	Topical only	Old drug, rarely used now
Ganciclovir	Same as acyclovir	Triphosphorylation (first by viral kinase, then host)	- CMV (retinitis, colitis, pneumonitis - herpetic keratitis (gel)	1. ↓ Viral kinase 2. Altered DNA polymerase	Bone marrow suppression (leukopenia, thrombocytopenia) CNS symptoms, carcinogen,teratogen mutagen	Mostly IV, gel (eye)	**Black box warning,** 1/3 stop treatment due to AEs

For any feedback, scan the code or click on it.

Corrections from previous versions:

Versions	Slide # and Place of Error	Before Correction	After Correction
V0 → V1			
V1 → V2			

رسالة من الفريق العلمي:

Additional Resources:

سبحانك اللهم وبحمدك، أشهد أن لا إله إلا أنت أستغفرك وأتوب إليك

اللَّهُمَّ صَلِّ عَلى إمَام المُجَاهِدين وَ قَائِد سَرايا المُقاتِلين مِن بَدرٍ إلَى يَومِ الدين، مَن أعزَّ بـ الجِهَاد قَوم مُؤمنين وَ أذل بـ حَدِّ سَيفه مِلَّة الكَافِرين و عَلى آل بَيتِه الطاهِرين و صَحبه الغر المَيامين ومَن قاتَل و جَاهد تَحتَ لِوائِه إلى يَوم الدين.
أكثِروا من الصلاة على نبيّنا مُحَمد.

سُورَةُ التَّوبَةِ

ٱنفِرُواْ خِفَافًا وَثِقَالًا وَجَٰهِدُواْ بِأَمۡوَٰلِكُمۡ وَأَنفُسِكُمۡ
فِي سَبِيلِ ٱللَّهِۚ ذَٰلِكُمۡ خَيۡرٞ لَّكُمۡ إِن كُنتُمۡ تَعۡلَمُونَ
٤١

سُورَةُ الإِخلَاصِ

بِسۡمِ ٱللَّهِ ٱلرَّحۡمَٰنِ ٱلرَّحِيمِ
قُلۡ هُوَ ٱللَّهُ أَحَدٌ ١ ٱللَّهُ ٱلصَّمَدُ ٢ لَمۡ يَلِدۡ وَلَمۡ يُولَدۡ ٣
وَلَمۡ يَكُن لَّهُۥ كُفُوًا أَحَدُۢ ٤

سُورَةُ الفَلَقِ

بِسۡمِ ٱللَّهِ ٱلرَّحۡمَٰنِ ٱلرَّحِيمِ
قُلۡ أَعُوذُ بِرَبِّ ٱلۡفَلَقِ ١ مِن شَرِّ مَا خَلَقَ ٢ وَمِن شَرِّ
غَاسِقٍ إِذَا وَقَبَ ٣ وَمِن شَرِّ ٱلنَّفَّٰثَٰتِ فِي ٱلۡعُقَدِ ٤
وَمِن شَرِّ حَاسِدٍ إِذَا حَسَدَ ٥

سُورَةُ النَّاسِ

بِسۡمِ ٱللَّهِ ٱلرَّحۡمَٰنِ ٱلرَّحِيمِ
قُلۡ أَعُوذُ بِرَبِّ ٱلنَّاسِ ١ مَلِكِ ٱلنَّاسِ ٢ إِلَٰهِ
ٱلنَّاسِ ٣ مِن شَرِّ ٱلۡوَسۡوَاسِ ٱلۡخَنَّاسِ ٤ ٱلَّذِي
يُوَسۡوِسُ فِي صُدُورِ ٱلنَّاسِ ٥
مِنَ ٱلۡجِنَّةِ وَٱلنَّاسِ ٦