

# PHARMA TEST BANK: MSS Final



Lectures: Skin Pharmacology (1-3), Antivirals, Gout Drugs

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## Skin Pharmacology

1. Which topical antibiotic is most effective against *Pseudomonas aeruginosa*?
  - A) Bacitracin
  - B) Polymyxin B
  - C) Fusidic acid
  - D) Neomycin
  - E) Mupirocin
  
2. Which of the following statements about Minoxidil is NOT true:
  - A) Can act as a nitric oxide agonist
  - B) May cause follicles in the anagen phase to shed
  - C) Enhancing blood supply to hair follicles
  - D) Vertex balding is more responsive to Minoxidil than frontal balding
  - E) Effective in reversing miniaturization of terminal hairs associated with androgenic alopecia
  
3. Which drug is an irreversible inhibitor of ornithine decarboxylase?
  - A) Minoxidil
  - B) Finasteride
  - C) Eflornithine
  - D) Tacrolimus
  - E) Hydroquinone

4. What is the major side effect of isotretinoin therapy?
- A) Nephrotoxicity
  - B) Hyperglycemia
  - C) Teratogenicity
  - D) Weight gain
  - E) Hypcholesterolemia
5. Topical retinoids like adapalene are primarily used to treat:
- A) Psoriasis
  - B) Rosacea
  - C) Warts
  - D) Comedonal acne
  - E) Impetigo
6. Which of the following pigmentation agents causes permanent destruction of melanocytes?
- A) Methoxsalen
  - B) Trioxsalen
  - C) Hydroquinone
  - D) Monobenzene
  - E) Azelaic Acid
7. All the following drugs has allergic contact dermatitis as a relatively common side effect EXCEPT:
- A) Hydrocortisone
  - B) Bacitracin
  - C) Neomycin
  - D) Topical Corticosteroids
  - E) Clindamycin
8. Which acne treatment has bactericidal effects and also reduces clogged pores?
- A) Benzoyl peroxide
  - B) Tretinoin
  - C) Erythromycin
  - D) Azelaic acid
  - E) Minocycline

**9. Clindamycin topical use may cause which rare but serious side effect?**

- A) Photosensitivity
- B) Hypopigmentation
- C) Pseudomembranous colitis
- D) Psoriasis
- E) Vitiligo

**10. Which topical agent is a competitive inhibitor of tyrosinase and used to treat hyperpigmentation?**

- A) Coal tar
- B) Anthralin
- C) Hydroquinone
- D) Eflornithine
- E) Tacrolimus

**11. Which of the following is an advantage of using calcineurin inhibitors:**

- A) Suitable for long-term use due to minimal systemic absorption
- B) Less irritating than steroids in sensitive areas
- C) Superior efficacy compared to high-potency corticosteroids
- D) Activates melanocyte proliferation in vitiligo
- E) Promotes keratinocyte apoptosis to reduce plaques

**12. Which of the following may lead to permanent depigmentation?**

- A) Monobenzone
- B) Hydrocortisone
- C) Tacrolimus
- D) Minoxidil
- E) Calcipotriene

**13. Apremilast treats psoriasis by inhibiting:**

- A) Interleukin-17
- B) TNF-alpha receptor
- C) PDE4
- D) Calcineurin
- E) Tyrosine Kinase

14. Which psoriasis drug inhibits spontaneous production of TNF-alpha from human rheumatoid synovial cells?

- A) Tazarotene
- B) Apremilast
- C) Tacrolimus
- D) Roflumilast
- E) Anthralin

15. Vitamin D analogs such as calcipotriene work by:

- A) Suppressing immune cells
- B) Inducing keratinocyte proliferation
- C) Inhibiting T-cell cytokine release
- D) Slowing skin cell growth and promoting differentiation
- E) Blocking androgen receptors

16. Which psoriasis drug is approved for the treatment of ankylosing spondylitis in adults along with psoriasis?

- A) Monobenzone
- B) Hydrocortisone
- C) Tacrolimus
- D) Trioxsalen
- E) Etanercept

17. Roflumilast cream acts by:

- A) Blocking tyrosine kinase
- B) Enhancing sebum production
- C) Inhibiting PDE4
- D) Stimulating hair growth
- E) Blocking vitamin D receptors

18. Which oral antibiotic is **commonly** used in acne treatment?

- A) Tetracycline
- B) Amoxicillin
- C) Ciprofloxacin
- D) Clindamycin
- E) Metronidazole

**19. Which drug stabilizes lysosomes and promotes dermal collagen synthesis?**

- A) Azelaic acid
- B) Salicylic acid
- C) Retinoic acid
- D) Tacrolimus
- E) Dexamethasone

**20. Deucravacitinib MAO( mechanism of action) is:**

- A) Blocking PDE4
- B) Inhibiting IL-4 receptor
- C) Allosteric inhibition of TYK2
- D) Binding TNF-alpha
- E) Enhancing melanocyte activity

**Answer Key:**

1) B 2) A 3) C 4) C 5) D 6) D 7) E 8) A 9) C 10) C  
11) B 12) A 13) C 14) B 15) D 16) E 17) C 18) A 19) C 20) C

## Gout Drugs

**21. Which drug used for acute gouty arthritis acts by inhibiting microtubule polymerization?**

- A) Allopurinol
- B) Colchicine
- C) Probenecid
- D) Indomethacin
- E) Febuxostat

**22. What is the primary mechanism of action of allopurinol?**

- A) Increasing uric acid solubility
- B) Enhancing renal urate excretion
- C) Inhibiting xanthine oxidase
- D) Blocking urate crystal phagocytosis
- E) Inhibiting cytokine release

**23. Colchicine is ineffective in:**

- A) Reducing inflammation
- B) Lowering uric acid levels
- C) Preventing recurrent attacks
- D) Interrupting crystal phagocytosis
- E) Inhibiting neutrophil activity

**24. A serious adverse effect of colchicine therapy includes:**

- A) Nephrolithiasis
- B) Tinnitus
- C) Aplastic anemia
- D) Photosensitivity
- E) Hepatomegaly

**25. Which NSAID is commonly used in acute gout treatment?**

- A) Aspirin
- B) Ibuprofen
- C) Indomethacin
- D) Naproxen
- E) All of the above

**26. Which uricosuric drug should be avoided in patients with renal stones?**

- A) Allopurinol
- B) Probenecid
- C) Colchicine
- D) Prednisone
- E) Naproxen

**27. Which of the following drugs inhibits urate reabsorption in renal tubules?**

- A) Colchicine
- B) Probenecid
- C) Allopurinol
- D) Pegloticase
- E) Sulindac

**28. Urate-lowering therapy should generally NOT be initiated:**

- A) After multiple gout attacks
- B) During acute gout flare
- C) In chronic tophaceous gout
- D) With high serum urate
- E) If urate nephropathy is present

**29. Which of the following statements about Allopurinol is NOT correct:**

- A) It is indicated for long-term management of hyperuricemia
- B) It lowers serum uric acid by enhancing renal excretion
- C) It can cause severe cutaneous hypersensitivity reactions
- D) Its mechanism involves inhibition of xanthine oxidase
- E) It may be used to prevent tophus formation

**30. What is a known hypersensitivity risk with allopurinol therapy?**

- A) Anemia
- B) Thrombosis
- C) Stevens-Johnson syndrome
- D) Angioedema
- E) Hyperpigmentation

**31. Which drug is used as a last resort for chronic treatment-resistant gout?**

- A) Pegloticase
- B) Febuxostat
- C) Colchicine
- D) Probenecid
- E) Anakinra

**32. All the following are classic radiologic or clinical findings in chronic tophaceous gout EXCEPT:**

- A) Bony erosions on X-ray
- B) Localized deposits on helix of the ear
- C) Acute bursitis
- D) Distal interphalangeal joint destruction
- E) Phalangeal bone cysts

**33. Which drug inhibits xanthine to uric acid conversion?**

- A) Probenecid
- B) Colchicine
- C) Allopurinol
- D) Ibuprofen
- E) Prednisone

**34. Gout is most **commonly** associated with depositions of:**

- A) Calcium pyrophosphate
- B) Cholesterol crystals
- C) Oxalate stones
- D) Monosodium urate crystals
- E) Hydroxyapatite

**35. Which of the following is NOT a side effect of colchicine?**

- A) Diarrhea
- B) Neutropenia
- C) Muscle weakness
- D) Hypocalcemia
- E) Aplastic anemia



**36. Febuxostat differs from allopurinol because:**

- A) It is a uricosuric drug
- B) It inhibits uricase
- C) It is an oral xanthine oxidase inhibitor
- D) It promotes urate absorption
- E) It increases purine synthesis

**37. All the following are classic clinical presentations of gout EXCEPT:**

- A) Sudden onset of joint pain
- B) Middle-aged male predominance
- C) Intense pain in big toe
- D) Intense inflammation in proximal joints
- E) Frequent monoarthritis occurrences

**38. Which of the following drugs is conjugated with PEG?**

- A) Colchicine
- B) Probenecid
- C) Allopurinol
- D) Pegloticase
- E) Sulindac

**39. In acute gout, why is aspirin avoided?**

- A) It is nephrotoxic
- B) It increases uric acid levels
- C) It causes hypertension
- D) It has no anti-inflammatory effect
- E) It reduces renal excretion of colchicine

**40. Which drug is used to treat interleukin-1 mediated gout inflammation?**

- A) Canakinumab
- B) Colchicine
- C) Allopurinol
- D) Prednisone
- E) Febuxostat

### **Answer Key**

21) B 22) C 23) B 24) C 25) E 26) B 27) B 28) B 29) B 30) C  
31) A 32) C 33) C 34) D 35) D 36) C 37) D 38) C 39) B 40) A

### **Sketchy for Gout Drugs: 3.2 (contains some indication on Gout Patho)**

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## **Antiviral Drugs**

### **41. Foscarnet differs from nucleoside analogs by:**

- A) Inhibiting reverse transcriptase
- B) Directly inhibiting viral polymerase without needing activation
- C) Targeting viral protease
- D) Being orally bioavailable
- E) Causing fewer adverse effects

### **42. The most common adverse effect of IV foscarnet is:**

- A) Myelosuppression
- B) Hepatotoxicity
- C) Nephrotoxicity
- D) Seizure
- E) Anemia

### **43. Which antiviral is administered to children infected with Varicella aged 2-12?**

- A) Foscarnet
- B) Ganciclovir
- C) Valacyclovir
- D) Acyclovir
- E) Famciclovir

**44. Foscarnet must be administered:**

- A) Orally once daily
- B) Topically with occlusion
- C) Intravenously with monitoring
- D) Subcutaneously for sustained release
- E) Via inhalation

**45. Acyclovir acts by:**

- A) Binding to RNA polymerase
- B) Inhibiting viral uncoating
- C) Inhibiting viral DNA polymerase and terminating DNA chain
- D) Inhibiting viral entry
- E) Destroying viral envelope

**46. Which antiviral agent is associated with hypocalcemia and thus hypokalemia due to chelation of divalent cations?**

- A) Valacyclovir
- B) Vidarabine
- C) Foscarnet
- D) Acyclovir
- E) Famciclovir

**47. Which antiviral agent is available in gel form for herpetic keratitis?**

- A) Foscarnet
- B) Ganciclovir
- C) Valacyclovir
- D) Acyclovir
- E) Famciclovir

**48. Ganciclovir is preferred over acyclovir for CMV because:**

- A) It has a longer half-life
- B) It causes less bone marrow suppression
- C) It is 100 times more active against CMV
- D) It is available topically
- E) It does not require activation

**49. Which drug does not need viral or host kinase for activation?**

- A) Ganciclovir
- B) Valacyclovir
- C) Vidarabine
- D) Acyclovir
- E) Foscarnet

**50. Which drug causes bone marrow suppression in up to 40% of patients?**

- A) Acyclovir
- B) Valacyclovir
- C) Foscarnet
- D) Ganciclovir
- E) Famciclovir

**51. Which is a chain-terminating guanine analog?**

- A) Acyclovir
- B) Foscarnet
- C) Oseltamivir
- D) Zidovudine
- E) Ganciclovir

**52. Which herpesvirus is least sensitive to acyclovir?**

- A) HSV-1
- B) HSV-2
- C) VZV
- D) EBV
- E) CMV

**53. The mechanism of action of ganciclovir includes:**

- A) Inhibition of viral RNA synthesis
- B) Inhibition of thymidylate synthase
- C) Inhibition of viral DNA polymerase after triphosphorylation
- D) Blocking neuraminidase
- E) Inhibiting viral protease

**54. Valacyclovir is converted to acyclovir in the:**

- A) Stomach
- B) Intestinal lumen
- C) Liver and intestine
- D) Kidney
- E) Systemic circulation

**55. All of the following statements about Vidarabine are correct EXCEPT:**

- A) It is a purine nucleoside analog that inhibits viral DNA polymerase
- B) It is active against HSV and VZV but not CMV
- C) Used in topical treatment of severe herpes simplex infection
- D) Used to treat immunocompromised patients with vaccinia keratitis
- E) It is more effective than acyclovir for HSV infections

**56. Which of the following best explains the selectivity of acyclovir for virus-infected cells?**

- A) High affinity for host DNA polymerase
- B) Binding to viral envelope proteins
- C) Requirement of viral thymidine kinase for activation
- D) Preferential accumulation in lymphocytes
- E) Conversion to acyclovir triphosphate in plasma

**57. The antiviral that can be used in acyclovir-resistant HSV is:**

- A) Ganciclovir
- B) Famciclovir
- C) Foscarnet
- D) Valacyclovir
- E) Vidarabine

**58. What is the major mechanism of resistance to acyclovir?**

- A) Increased renal clearance
- B) Efflux transporter upregulation
- C) Mutated viral thymidine kinase
- D) Overexpression of viral RNA polymerase
- E) Enhanced GI metabolism

**59. Which agent is NOT used for HSV or VZV?**

- A) Acyclovir
- B) Ganciclovir
- C) Valacyclovir
- D) Foscarnet
- E) Ribavirin

**60. Which statement is TRUE regarding vidarabine?**

- A) It is widely used orally
- B) It is superior to acyclovir
- C) It only inhibits viral DNA polymerase
- D) Used in treatment of keratoconjunctivitis
- E) It causes nephrotoxicity

**Answer Key**

41) B 42) C 43) D 44) C 45) C 46) C 47) B 48) C 49) E 50) D  
51) A 52) E 53) C 54) C 55) E 56) C 57) C 58) C 59) E 60) D

Sketchy for Antivirals: (Both are different videos overall containing the antivirals required, really helpful!)

8.1

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8.2

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Goodluck!!