

山东大学医学院
(2008—2009 学年第二学期)
2006 级临床医学七年制
药理学期末考试试题 (A 卷)

**FINAL TERM EXAMINATION OF PHARMACOLOGY FOR
7-YEARS-2006**

题号	一	二	三	四	五	六	七	总分	统分人
得分									

得分	统分人

一、名词解释：(每题 2 分，共 10 分)

1. Placebo

扣分	
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2. First pass elimination

扣分	
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3. Median effective dose, ED50

扣分	
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4. Post antibiotic effect

扣分	
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5. Cell cycle specific agents

扣分	
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得分	统分人

二、选择题 (A 型每题 0.8 分;X 型每题 1 分, 共 50 分)

Type A choice questions (only one answer is correct)

1. Antagonist has
 - A. affinity for receptors but no intrinsic activity
 - B. no both affinity and intrinsic activity
 - C. affinity and weak intrinsic activity
 - D. affinity and low efficacy
 - E. high affinity and efficacy
2. PD_2 is
 - A. therapeutic index
 - B. antagonist
 - C. affinity index
 - D. dissociation constant
 - E. elimination rate constant
3. A drug eliminated with first-order kinetics, the concentration of the drug in plasma is 200mg/L, at 10 o'clock in the morning after administration of a single dose, the drug plasma concentration is 25 mg/L, at 10 o'clock on second day morning, its $t_{1/2}$ is
 - A. 4h
 - B. 6h
 - C. 12h
 - D. 10h
 - E. 8h
4. The drug that its therapeutic index is the largest is
 - A. DrugA $LD_{50}=150mg, ED_{50}=100mg$
 - B. DrugB $LD_{50}=100mg, ED_{50}=50mg$
 - C. DrugC $LD_{50}=250mg, ED_{50}=100mg$
 - D. DrugD $LD_{50}=300mg, ED_{50}=50mg$
 - E. DrugE $LD_{50}=300mg, ED_{50}=150mg$
5. Resistance means
 - A. patients develop tolerance to the drug
 - B. patients diminish tolerance to the drug
 - C. the sensitivity of bacteria to the drug increases
 - D. the sensitivity of bacteria to the drug decreases, after repeated administration
 - E none of above
6. The mechanism of treating Phenobarbital poisoning with bicarbonate sodium is that it
 - A. Nutralizates Phenobarbital
 - B. Stimulates Phenobarbital transference from the brain to the plasma

- C. Basines urine fluids, prevent Phenobarbital from reuptaking, and stimulates excretion of drug
- D. B and C are right
- E. A and C are right
7. In the existence of competitive antagonist, the dose effect curve of the agonist
- A. dose not change
 - B. will shift to right parallely
 - C. parallely move to left
 - D. will be enhanced
 - E. will decline
8. Patients with myasthenia gravis are more effectively treated with
- A. physostigmine
 - B. rivastigmine
 - C. neostigmine
 - D. atropine
 - E. pilocarpine
9. From the following indications for the use of phentolamine, which is incorrect?
- A. treatment of hypertension caused by surgical manipulation of pheochromacytoma
 - B. diagnosis of pheochromacytoma (嗜铬细胞瘤)
 - C. treatment of Raynaud's syndrome
 - D. primary hypertension
 - E. microcirculation disturbances
10. Atropine can not be used to treat patients with
- A. bradycardia
 - B. prostatic hypertrophy
 - C. infectious shock
 - D. neostigmine overdose
 - E. intoxication of organophosphates
11. Which one of the following descriptions is incorrect?
- A. β -R blockers delay recovery of blood glucose after insuline
 - B. β -R blockers promote rennin release
 - C. β -R blockers inhibit conversion of T_4 to T_3
 - D. β -R blockers decrease intraocular pressure
 - E. β -R blockers can induce rebound phenomenon
12. The drug choice in the treatment of anaphylactic shock is
- A. glucocorticoids
 - B. antihistamine drugs
 - C. norepinephrine
 - D. adrenaline

- E. dopamine
13. All of the following statements about the action of Scoline are true except
- A. It has muscle fasciculation
 - B. It has ganglionic blocking action at therapeutic dose
 - C. It promotes the release of histamine
 - D. It has tachyphylaxis
 - E. It belongs to depolarizing neuromuscular blockers
14. Which of the following therapeutic projects could be used in the treatment of patients with organophosphate intoxication?
- A. atropine + norepinephrine
 - B. atropine + pralidoxime iodide
 - C. atropine + neostigmine
 - D. atropine + morphine
 - E. atropine + physostigmine
15. All of the following statements about the action of phenylephrine (去氧肾上腺素) are true except
- A. It is weak in decreasing renal blood flow
 - B. It can be used to examine retina due to its action of mydriasis
 - C. It is α_1 -R agonist
 - D. It can be used to treat paroxysmal supraventricular tachycardia
 - E. It can be used to control hypotension caused by phenothiazine
16. The released neurotransmitter-norepinephrine is disposed mainly by
- A. liver drug enzyme
 - B. COMT in synaptic cleft
 - C. neuronal reuptake
 - D. non-neuronal reuptake
 - E. MAO in synaptic cleft
17. If one patient is taking imipramine and another is taking chlorpromazine, they are both likely to experience
- A. akathisia
 - B. tardive dyskinesia
 - C. constipation and dry mouth
 - D. diarrhea
 - E. gynecomastia
18. The oral antipsychotic drug that would be used for the patient with chronic psychoses to maintain curative effect is
- A. clozapine
 - B. penfluridol
 - C. chlorpromazine
 - D. chlorprothixene
 - E. haloperidol
19. The main reason for the combination use of levodopa with carbidopa is
- A. to increase the absorption of L-dopa
 - B. to inhibit levodopa decarboxylation in the periphery
 - C. to inhibit MAO
 - D. to inhibit COMT
 - E. to increase L-dopa converting to dopamine directly

- D. atropine administration
 - E. phenytoin administration
30. The mechanism of anti-hypertensive effect of losartan is
- A. decrement of renin activity
 - B. inhibition of angiotensin converting enzyme
 - C. blockade of the angiotensin II receptors
 - D. increment of bradykinin synthesis
 - E. causing vasodilation directly
31. ACE inhibitors can do all of the following EXCEPT
- A. decrease the blood sugar
 - B. causing dry cough
 - C. inhibit the formation of angiotensin II
 - D. promote the excretion potassium
 - E. increase bradykinin concentration in the blood
32. Which of the following antianginal drugs is not suitable for patients with variant angina?
- A. Verapamil
 - B. Nifedipine
 - C. Nitroglycerin
 - D. Propranolol
 - E. Nicorandil
33. The best choice treated for the hypertensive patient with heart failure is
- A. Verapamil
 - B. Captopril
 - C. Hydralazine
 - D. Prazosin
 - E. Nifedipine
34. All of the following statements about amiodarone are true EXCEPT:
- A. it increases APD and ERP
 - B. it suppresses premature ventricular contraction and ventricular tachycardia
 - C. it blocks α and β -adrenoreceptors
 - D. it can cause hyper- or hypothyroidism
 - E. it has reverse use-dependence
35. Which of the following statements about Captopril is wrong?
- A. It causes reflex tachycardia easily
 - B. It does not cause lipid metabolism disturbance
 - C. Increasing bradykinin due to it seems to be responsible to cough
 - D. It is contraindicated to pregnant woman
 - E. It is contraindicated to bilateral renal artery stenosis
36. The drug useful in preventing asthma but lacking bronchodilator action is
- A. cromolyn sodium
 - B. ephedrine
 - C. isoprenaline
 - D. labetalol
 - E. metoprolol
37. Which of the drugs is used for antifibrinolysis ?
- A. vit K
 - B. ridogrel
 - C. tranexamic acid
 - D. adenosine
 - E. streptokinase
38. The antiplatelet mechanism of aspirin is
- A. inhibiting synthesis of TXA_2 in platelet
 - B. inhibiting synthesis of TXA_2 in endothelium
 - C. promoting synthesis of PGI_2 in platelet
 - D. promoting synthesis of PGE_2 in endothelium

- E. promoting synthesis of PGI₂ in endothelium
39. The severe adverse reaction of biguanides is
A. hypoglycemia B. lactic acidosis C. vomiting
D. blood dyscrasias E. hepatic impairment
40. Which of the following statements about anti-inflammatory action of glucocorticoids is NOT true
A. inhibiting both the early and the late manifestation of inflammation
B. inhibiting the release of arachidonic acid
C. affecting all types of inflammatory reactions
D. increasing the amount of lymphocyte
E. Inducing apoptosis of inflammatory cell
41. Which of the following mechanisms best accounts for the anti-thyroid effect of methylthiouracil?
A. Inhibiting peroxidase and decreasing the thyroxin synthesis
B. Inhibiting the thyroid releasing
C. Inhibiting the absorption of iodine
D. Interfering with the utilization of iodine
E. Decomposing the thyroxin
42. Which of the following oral hypoglycemic agents can be used in diabetes insipidus?
A. Glyburide (格列本脲) B. Metformin (甲福明) C. Acarbose (阿卡波糖)
D. Pioglitazone(吡格列酮) E. Repaglinide(瑞格列奈)
43. Which of the following drugs can inhibit the synthesis of bacterial cell wall, but does not belong to β-lactam antimicrobials
A. clavulanic acid B. vancomycin C. aztreonam D. cefazolin E. amoxicillin
44. Which of the following drugs is the first choice in treating mycoplasma pneumonia?
A. tetracycline B. azithromycin C. gentamicin
D. penicillin E. kanamycin
45. Sulfonamide act synergistically with trimethoprim because
A. sulfonamides inhibit the metabolism of trimethoprim
B. trimethoprim inhibit the metabolism of sulfonamides
C. both drugs act at the same step in inhibiting folic acid synthesis
D. both drugs act at different steps in inhibiting folic acid synthesis
E. none of the above.
46. Which of the following statements about the mechanism of antibacterial drugs is most accurate?
A. aminoglycosides bind to receptors on the 50s ribosomal subunit to prevent attachment of aminoacyl-tRNA

- B. cephalosporins inhibit the synthesis of precursor of the linear peptidoglycan chain of the cell wall
- C. fluoroquinolones inhibit DNA-dependent RNA polymerase
- D. penicillin G binds to PBPs to inhibit the synthesis of peptidoglycan
- E. trimethoprim inhibits dihydrofolate reductases of bacteria
47. Which of the following drugs can treat osteomyelitis caused by G⁺ bacteria ?
- A. penicillin G B. polymyxin C. chloramphenicol
- D. clindamycin E. ciprofloxacin
48. Which of the following drugs can be used to treat AIDS?
- A. Aciclovir(阿昔洛韦) B. zidovudine C. ribavirin
- D. idoxuridine(碘昔) E. vidarabine(阿糖腺苷)
49. Which of the following compatibility administration is correct?
- A. streptomycin + gentamicin
- B. penicillin G + gentamicin
- C. streptomycin + furosemide
- D. penicillin G + erythromycin
- E. penicillin G + chloramphenicol
50. A 75-year-old woman is hospitalized for pneumonia and treated with an intravenous antibiotic, on the 3rd day, she developed serious diarrhea, stool is positive for Clostridium difficile toxin. What is the best treatment?
- A. clindamycin B. cefaclor C. metronidazole
- D. erythromycin E. chloramphenicol

Type X choice questions (one or more answers may be correct)

51. Propranolol can't be used in patients with
- A. Raynaud's syndrome B. bronchial asthma C. tachycardia
- D. atrioventricular block E. thyrotoxicosis
52. Which of the following drugs can be used in treatment of glaucoma?
- A. mannitol B. timolol C. homatropine
- D. pilocarpine E. physostigmine
53. Which of the statements about diazepam is (are) correct?
- A. antianxious effect in a small dose B. sedative & hypnosis in larger dose
- C. shortening REM sleep D. reducing NREM sleep
- E. can be used for status epilepticus
54. Morphine can produce
- A. nausea and vomiting B. euphoria C. dizziness
- D. respiratory depression E. mydriasis

55. Which of the following drugs belong to the first-line drugs therapy for hypertension in current?
- A. A vasodilator such as hydralazine
 - B. A calcium channel blocker such as amlodipine
 - C. A β -receptor blocker such as propranolol
 - D. A diuretic such as hydrochlorothiazide
 - E. An ACE inhibitor such as captopril
56. Which of the following drugs is (are) useful in treatment of ventricular tachycardia?
- A. Propafenone
 - B. Digitoxin
 - C. Verapamil
 - D. Lidocaine
 - E. Amiodarone
57. Which of the following drugs used in peptic ulcer eradicate H.Pylori?
- A. Omeprazole
 - B. sucralfate
 - C. colloidal bismuth subcitrate
 - D. cimetidine
 - E. sodium bicarbonate
58. Which of the following statement about insulin are true?
- A. it can cause anaphylactic reaction
 - B. it can cause hyperglycemic reaction
 - C. it can be administrated orally
 - D. its mechanism of action is through intracellular receptor pathway
 - E. it can be used in IDDM and NIDDM
59. Which is(are) the effective agent against pseudomonas aeruginosa among the following drugs
- A. genetamicin
 - B. carbenicillin
 - C. polymyxins
 - D. ampicillin
 - E. ceftriaxone
60. Metronidazole can be used in the treatment of
- A. Syphilis
 - B. Trichomonas vaginalis infection
 - C. Bacterial dysentery
 - D. Anaerobic infections
 - E. Helicobacter pylori infection

得分	统分人

三、问答题（共 40 分）

1. Please describe the treatment of acute organophosphates intoxication.
(8 points)

扣分	评卷人

2. Please compare the differences between chlorpromazine and NSAIDs in body temperature regulation. (8 points)

扣分	评卷人

3. Please describe the mechanisms of β -Adrenoceptor blockers in the treatment of congestive heart failure. (8 points)

扣分	评卷人

4. Describe the aim and mechanism of combined use of large-dose iodine and thioureas in preoperative preparations for subtotal thyroidectomy(甲状腺次全切除术). (8 points)

扣分	评卷人

5. Please describe the antibacterial spectrum of fluoroquinolones.
(8 points)

扣分	评卷人

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药理学期末考试试题 (A 卷) 答案

一、 名词解释 (共 10 分)

1. Placebo: 安慰剂, 不含药理活性成分, 只含赋形剂, 在外观和口味上与药物完全一样的制剂。

2. First pass elimination: 首过消除, 从胃肠道吸收入门静脉系统的药物在到达全身血循环前必先通过肝脏, 如果肝脏对其代谢能力很强, 或由胆汁排泄的量大, 则使进入全身血循环内的有效药物量明显减少, 这种作用称为首过消除。

3. Median effective dose, ED50: 半数有效量, 能引起 50% 的实验动物出现阳性反应时的药物剂量称为半数有效量。

4. Post antibiotic effect: 抗菌后效应, 将细菌暴露于浓度高于 MIC 的某种抗菌药后, 再去除培养基中的抗菌药, 去除抗菌药后的一定时间范围内细菌繁殖不能恢复正常, 这种现象称为抗菌后效应。

5. Cell cycle specific agents: 仅对恶性肿瘤细胞增殖周期中的某一期细胞有杀灭作用的药物。

二、 选择题 (共 50 分)

单选: (共 40 分)

1.A 2.C 3.E 4.D 5.D 6.C 7.B 8.C 9.D 10.B 11.B 12.D 13.B
14.B 15.A 16.C 17.C 18.B 19.B 20.D 21.B 22.A 23.C 24.A
25.E 26.E 27.A 28.B 29.B 30.C 31.D 32.D 33.B 34.E 35.A
36.A 37.C 38.A 39.B 40.D 41.A 42.A 43.B 44. B 45.D 46.D
47.D 48.B 49.B 50. C

多选: (共 10 分)

51.ABD 52.ABDE 53.ABDE 54.ABCD 55. BCDE 56.ADE
57.ABC 58.ACE 59.ABCE 60.BDE

三、问答题（共 40 分）

1. Please describe the treatment of acute organophosphates intoxication. (8 points)

答：（1）消除毒物：通过清洗皮肤，催吐减少吸收；通过洗胃，导泻促进排泄。
(2分)

（2）应用解毒药物：

阿托品能迅速对抗体内 Ach 的 M 样作用，如中毒引起的流涎出汗，肌肉震颤，心率减慢等作用。应尽量早期给药，并根据中毒情况采用较大剂量，达到阿托品化。（3分）

（3）AChE 复活药（氯解磷定/碘解磷定）：可恢复 AChE 活性，也可与体内游离的有机磷直接结合，成为无毒的产物排出体外（3分）

2. Please compare the differences between chlorpromazine and NSAIDs in body temperature regulation. (8 points)

答：（1）机制 氯丙嗪作用于下丘脑体温调定点的多巴胺受体(2分)，使体温随外界环境温度的变化而变化(1分)；NSAIDs 通过抑制环氧酶减少中枢 PGE2 的合成，使体温调定点下调(2分)，降低发热机体的体温(1分)。

（2）应用 氯丙嗪用于低温麻醉和人工冬眠(1分)；NSAIDs 用于发热及风湿(1分)。

3. Please describe the mechanisms of β -Adrenoceptor blockers in the treatment of congestive heart failure. (8 points)

答：交感神经活性明显升高、RAAS 激活等神经体液的紊乱在心衰中起重要作用。
 β -受体阻断药通过抗交感神经及 RAAS 而治疗 CHF。

（1）抑制交感神经过度兴奋和上调 β -受体： β -受体阻断药通过阻断心脏 β -受体拮抗交感神经过度兴奋对心脏的损害，通过上调衰竭心脏的 β -受体及恢复其信号转导能力，改善其对儿茶酚胺的敏感性。（2分）

（2）抑制 RAAS 激活： β -受体阻断药通过抑制 RAAS 激活，减少肾素、血管紧张

素的释放，扩张血管，减少水钠潴留，减轻心脏前后负荷；还可减慢心率，减少心肌耗氧，从而改善心肌缺血和心脏舒张功能。(2分)

(3) 抗心律失常及抗心肌缺血：能减少急性心血管事件及猝死的发生，改善 CHF 患者预后。(2分)

(4) β -受体阻断药对心功能的影响是双向的，短期效应为心功能恶化，长期用药，明显改善心功能与血流动力学。(2分)

4. Describe the aim and mechanism of combined use of large-dose iodine and thioureas in preoperative preparations for subtotal thyroidectomy(甲状腺次全切除术). (8 points)

答：甲亢术前应服用硫脲类及大剂量碘化物

(1) 服用硫脲类目的：为减少病人在麻醉和术后的合并症及甲状腺危象，术前应先服用硫脲类药物，使甲状腺恢复或接近正常。(2分)

原理：硫脲类可抑制过氧化物酶，抑制甲状腺激素的合成(2分)

(2) 服用大剂量碘化物的目的及原理：由于用硫脲类后负反馈性引起 TSH 分泌增多，使腺体增生，组织脆而充血，不利于手术进行，所以在术前 2 周加服大剂量碘化物(2分)。可抑制 TSH 使腺体增生的作用，使腺体缩小变韧，血管减少，利于手术进行及减少出血。(2分)

5. Please describe the antibacterial spectrum of fluoroquinolones. (8 points)

氟喹诺酮类的抗菌谱包括：

(1) G^- 菌：肠杆菌属、假单孢菌属、奈瑟球菌属、嗜血杆菌属、弯曲杆菌属等。
(3分)

(2) G^+ 菌：金黄色葡萄球菌、肺炎球菌、溶血性链球菌、肠球菌等。(2分)

(3) 军团菌、衣原体、支原体、结核杆菌的、厌氧菌等。(3分)