私立臺北醫學院 九十 學年度第 一 學期 期中 (期末) 考試 (命試) 題紙

系級	科目	授課教師	考試日期	學號	姓名
牙三	藥理學		91年1月10日第 節		

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Choose the most appropriate answer (25%) 命題：柯文昌

( ) 1. (A) Pentylenetetrazol (B) Nikethamide (C) Doxapram (D) Caffeine is the most useful analeptic because of its higher therapeutic ratio.

( ) 2. The therapeutic ratio of CNS stimulants is expressed as (A) convulsant $dose_{50}$/ respiratory stimulant $dose_{50}$ (B) lethal $dose_{50}$/ effective $dose_{50}$ (C) lethal $dose_{50}$/ respiratory stimulant $dose_{50}$ (D) None of the above.

( ) 3. The therapeutic index of anticonvulsants is expressed as (A) lethal D_{50} / effective D_{50} (B) convulsant D_{50} /anticonvulsant D_{50} (C) sedative D_{50} / respiratory stimulant D_{50} (D) sedative D_{50} / anticonvulsant D_{50}.

( ) 4. Caffeine exerts its effectiveness in the treatment of migraine by (A) stimulating CNS (B) constricting cerebral vessels (C) inhibiting axon reflex (D) depeting substance P.

( ) 5. Methylxanthines exert their relaxant effects on smooth muscles by inhibiting (A) cholinesterase (B) carbonic anhydrase (C) phosphodiesterase (D) guanylate cyclase.

( ) 6. (A) Caffeine (B) Aminophylline (C) Theobromine (D) Pentoxifylline is the most potent in the cardiac stimulation.

( ) 7. Menthol is used to stimulate (A) spinal cord (B)mid brain (C) fore brain (D) cerebrum.

( ) 8. Caffeine may cause blood clotting by increasing the followings EXCEPT (A) coagulation factor V (B) prothrombin (C) thrombin (D) fibrinogen

( ) 9. Caffeine does NOT cause (A) diuresis (B) gastric secretion (C) osteoporosis (D) hypotension

( ) 10. Pentoxifylline, used in the prevention of intermittent claudication, is NOT owing to its ability of (A) relaxing the skeletal muscle of legs (B) improvement in red blood cell flexibility (C) decreasing plasma fibrinogen (D) reducing viscosity of blood.

( ) 11. (A) Phenobarbital (B) Dicumarol (C) Disulfiram (D) valproic acid speeds up the metabolism of phenytoin.

( ) 12. The drug of choice for the treatment of psychomotor seizure is (A) phenobarbital (B) phensuximide (C) carbamazepine (D) valproic acid.

( ) 13. The drug of choice for the treatment of infantile spasm is (A) phenobarbital (B) phensuximide (C) carbamazepine (D) ACTH.

( ) 14. Side effects of phenytoin do not include (A) photophobia (B) megaloblastic anemia (C) osteomalacia (D) hypertrophy of gum.

( ) 15. The drug of choice for the treatment of petit mal is (A) phenobarbital (B) trimethadione (C) ethosuximide (D) dilantin.

( ) 16. The potential use of (A) calcium channel blockers (B) potassium channel blockers (C) GABA-receptor agonists (D) antagonists of N-methyl-D-asparate for management of epilepsy is NOT an area of current interest.

( ) 17. Valproic acid facilitates GABA-mediated inhibition by elevating brain level of GABA, owing to inhibit (A)succinic semialdehyde dehydrogenase (B) α-tyrosine hydroxylase (C) glutamate transferase (D) carbonic anhydrase.

( ) 18. The monitoring of (A) renal function (B) liver function (C) blood cells (C) blood concentration is necessary when the administration of valproic acid.

( ) 19. Generalized seizures do NOT include (A) grand mal (B) absence seizure (C) psychomotor seizure (D) atonic seizure.

( ) 20. (A) Phenytoin (B) Diazepam (C) Lorazepam (D) Carbamazepine is NOT indicated for status epilepticus.

( ) 21. Phenobarbital (A) prolongs chloride channel opening duration (B) increases chloride channel opening frequency (C) can prevent absence seizure (D) increases the effectiveness of GABA.

( ) 22. Benzodiazepines (A) prolong chloride channel opening duration (B) decrease chloride channel opening frequency (C) increase the effectiveness of GABA (D) decrease chloride influx, and exert their anticonvulsant effects.

( ) 23. Benzodiazepines bind to (A) α (B) β (C) γ (D) δ subunit of chloride channel and exert their effects.

( ) 24. GABA binds to (A) α (B) β (C) γ (D) δ subunit of $GABA_A$ receptor complex and exerts hyperpolarization.

( ) 25. GABA also binds to $GABA_B$ receptor complex and causes (A) chloride influx (B) chloride outflux (C) potassium influx (D) potassium outflux.

選擇題 (17%)

( ) 1. 使用 local anesthetic 之後, B type 的何種功能受抑制 ? (A)proprioception function (B)preganglionic function (C)touch function (D)pain function

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命題：曾素惠

( ) 2. 大部分的 local anesthetic 加入何種成分以延長藥效？
(A)epinephrine (B)dopamine (C)acetylcholine (D)serotonin

( ) 3. Local anesthetics 與 general anesthetics 臨床上對人體影響之最大差別爲: (A)是否產生 pain inhibition (B)是否產生 muscle relaxation (C)是否產生 hypnosis (D)是否產生 touch inhibition

( ) 4. 下列何種全身麻醉藥具有 bronchial irritation, flammability 以及使用之後知覺恢復慢的缺點？ (A)Cyclopropane (B)Diethyl ether (C)Nitrous oxide (D)Isoflurane

( ) 5. 患者吸入全身麻醉藥，經由肺部進入血管而分佈至 blood partially perfused tissue，包括 smooth muscle 以及 (A)liver (B)tendon (C)skeletal muscle (D)kidney

( ) 6. Methoxyflurane 產生 nephrotoxicity 的副作用，原因何在？
(A)potency 很大 (B)MAC 很大 (C)fluoride-ion 釋出 (D)lipid solubility 很大

( ) 7. 進行全身麻醉之前，使用 Fentanyl 的目的是 (A)antiemesis (B)induction of ventilation (C)減少 surgical pain (D)減少 bronchial secretion

( ) 8. 患者使用 Halothane 之後病人若處於 hypotention，則必須注意什麼？
(A)是否有 arrhythmia (B)減少氧氣 (C)儘快注射 epinephrine (D)增加麻醉劑量

( ) 9. 投與全身麻醉藥時，何種麻醉分期可進行 dental and thoracic surgery？
(A)Stage I (B)Stage III plane 1 (C)Stage III plane 2 (D)Stage III plane 3

( )10. Thiamylal 具快速誘導全身麻醉能力乃是該藥物分佈在 (A)blood (B)brain, viscera (C)less well perfused tissue (D)fat 然後 redistribution 而降低藥效

( )11. 大部分的全身麻醉藥其 MAC 越大 (A)tissue solubility 越好 (B)potency 越小 (C)與 lipid solubility 無關 (D)blood solubility 越大

( )12. 下列何種條件可以加快麻醉速率 (rate of induction)？ (A)increase cardiac output (B)increase inspiration 吸氣 (C)decrease ventilation 換氣 (D)high blood solubility

( )13. 下列何者是麻醉藥之 MAC？ (A)maximum activating concentration (B)maximum alveolar concentration (C)minimum alveolar concentration (D)midterm anesthesia concentration

( )14. 以 halothane 麻醉大約 7.5 天之後，測出下列何種組織有明顯的藥物存在？
(A) tendon (B) skeletal muscle (C) skin (D) fat

( )15. 使用 isoflurane 全身麻醉，誘導期(induction stage) 是指 (A) stage III plane 2 + stage III plane 1 (B) stage III plane 1 + stage II (C) stage I + stage II (D) stage II + stage IV

( )16. 下列何者是注射型全身麻醉藥? (A) Atropine (B) Propofol (C) Cyclopropane (D) Metoclopramide

( )17. 使用 Ketamine 需留意何種 clinical problem？ (A) Hallucination (B) ↓ pain threshold (C) hypoxia (D) ↓ steroidogenesis

命題：葉健全

每題 2 分 (16 %)

1. Which of the following statement is wrong?
A. The endogenous opioid peptides are functioning to mediate pain transmission
B. The endogenous opioid peptides are released in spinal cord
C. The endogenous opioid peptides could be released from pituitary gland with ACTH
D. The endogenous opioid peptides are acting on three different subtype opioid receptors
E. None of the above

2. A patient has taken morphine for relieving cancer pain for 1 month. Which of the following statements is wrong?
A. The dosage of morphine needed to have complete pain relief is much higher than that at beginning.
B. He will gradually become conscious disturbance as he persistently received the morphine treatment.
C. He will have severe constipation.
D. Fentanyl could be described if he complains that morphine treatment can not attenuate the cancer pain any more.
E. None of the above.

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3. Which one of the following drugs is used for antitussive medication with the least risk of abuse?
A. methadone B. meperidine C. codeine D. loperamide E. morphine

4. Which one of the following neurotansmitters is released in the ascending pain pathway?
A. Dynorphine. B. Serotonin. C. Norepinephrine. D. Glutamine. E. substance P.

5. A patient received abdominal operation gastric cancer. He needs opioid pain medication. Which one the following drugs is the best one at beginning?
A. Naloxone B. meperidine C. morphine D. fentanyl E. dextromethorphan

6. Which one of the following statements regarding the mechanism by which morphine produces its analgesia effect is wrong?
A. morphine decreases the calcium inflow
B. morphine increases potassium outflow
C. morphine decreases the release of glutamate in spinal cord
D. morphine decreases the activity of adenyl cyclase
E. none of the above

7. A heroin abuser had developed massive cough, severe anxiety, irritability, diarrhea, increased pain sensation, insomnia, and incontinence. He was sent to emergency room. Which one of the following drugs is likely suitable medication for him?
A. morphine B. methadone C. naloxone D. loperamide E. none of the above

8. Which one the drugs is used for anti-diarrhea without risk of abuse?
A. Loperamide B. nalbuphine C. oxymorphine D. codeine E. methadone

命題：蔡妍菊

選擇題：(每題 2 分，共 25 分)

( ) 1. 下列有關抗生素的抗菌作用的敘述，何者正確？
(A) cycloserine - inhibition of cell wall synthesis
(B) ß-lactams - action on cell membranes
(C) vancomycin - inhibition of protein synthesis
(D) novobiocin - inhibition of DNA polymerase

( ) 2. 下列有關抗生素和其發生抗藥菌的敘述，何者錯誤？
(A) sulfonamides - reduction in importance of target
(B) tetracyclines - effluxs of drug
(C) 5- flucytosine - inactivating enzymes
(D) ß-lactams - altered porin channels

( ) 3. 下列有關抗生素治療的敘述，何者錯誤？
(A) AIDS 孕婦服用 zidovudine，可預防 HIV 垂直感染胎兒。
(B) 制菌性和殺菌性抗生素併用，可增強抗菌作用。
(C) 缺乏 G6PD 活性的病人使用氧化性強的藥物，易發生溶血現象。
(D) 抗藥菌的發生都是經由 chromosome mutation 造成的。

( ) 4. 下列有關 sulfonamides 的敘述，何者錯誤？
(A) 會和 PABA 競爭於 dihydropteroate synthetase 酵素上
(B) 在肝臟行 N_4-acetylation 而產生 inactive derivative
(C) 大部份 sulfonamides 口服使用吸收不好
(D) sulfonamides 和 serum albumin 結合力強

( ) 5. 下列有關 urinary tract infection 的敘述，何者錯誤？
(A) co-trimoxazole 可用於 prostatitis 的治療
(B) nalidixic acid 僅用於 G(-)菌感染的治療
(C) methenamine 和 sulfadiazine 共用可加強對 UTI 的作用
(D) nitrofurantoin 僅對於 E.coli 的感染有效

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( ) 6. 下列有關 fluoroquinolones 的敘述，何者錯誤？
(A) 經由抑制 DNA gyrase 活性而有抗菌作用
(B) 最須注意的臨床問題是 nephrotoxicity
(C) 多僅用於 G(-)菌感染的治療
(D) antacids 和 cations 會影響藥物的吸收

( ) 7. 下列抗生素的相關敘述，何者錯誤？
(A) rifampin 會抑制 DNA-dependent RNA polymerase 的酵素活性
(B) penicillins 會抑制 transpeptidase 的酵素活性
(C) polymyxin B 會和細菌細胞膜上的 ergosterol 結合
(D) aminogycosides 是屬於快速殺菌性抗生素

( ) 8. 選出正確的敘述：
(A) sulfoisoxazole 易發出結晶尿(crystalurea)的副作用
(B) trimetoprim 會干擾細菌和病患的 dihydrofolate reductase 活性
(C) quinolones 會抑制肝臟的 cytochrome P-450 活性
(D) methenamine 會釋出 formaldehyde 而有 brown urine 出現

( ) 9. 可受腸道細菌分解釋出活性產物，而應用於 chronic inflammatory bowel disease (eg. Crohn's disease)的治療藥物是：
(A) succinylsulfathiazole (B) sulfasalazine
(C) sulfacarbamide (D) sulfamethoxazole

( )10. 新生兒使用 sulfonamides 會增加核黃疸(kernicterus)發生是因：
(A) 與 bilirubin 在血漿白蛋白上競爭結合 (B) 抑制骨髓增生作用
(C) 減少血漿白蛋白的製造 (D) 抑制 bilirubin 的代謝

( )11. 使用 sulfonamides 時，併服 $NaHCO_3$ 的目的是：
(A) 減緩藥物在體內的代謝 (B) 增加藥物在尿液的溶解度
(C) 加強藥物的抗菌作用 (D) 防止藥物抗藥菌的發生

( )12. 治療急性尿道症群(acute urethral syndrome)時，該選用：
(A) co-trimoxazole (B) ampicillin (C) tetracyclines (D) erythromycin

( )13. 可被用於 AIDS 病患的 PCP(Pneumocystis Carinii Pneumonia)治療藥物是：
(A) norfloxacin (B) nitrofurantoin (C) co-trimoxazole (D) enoxacin (1%)

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命題：蕭哲志

(每題二分)

( ) 1.Which statements of the following unwanted side effects of typical antipsychotic drugs are incorrect? (A) Drowsiness by histamine receptor blockade (B) Dry mouth and blurred vision by muscarinic receptor blockade (C) Orthostatic hypotension by alpha2-adrenergic receptor blockade (D) Extrapyramidal motor disorder by dopamine receptor blockade (E) A and C

( ) 2.Which of the following side effects of chlorpromazine should be treated immediately? (A) Mild slowing of gait (B) Production of breast milk in a nonnursing woman (C) Constipation (D) Neuroleptic malignant syndrome (E) All of the above

( ) 3.Which of the following actions distinguishes newer (atypical) antipsychotics from typical antipsychotics? (A) High incidence of extrapyramidal effects (B) Selective effect on mesolimbic dopamine neurons (C) Little hyperprolactinemia (D) It exhibits a high affinity for several subtypes of the serotonin receptor (E) B, C and D

( )4.Fluoxetine is comparable to a tricyclic antidepressant such as imipramine in causing: (A) Orthostatic hypotension (B) Nausea and vomiting (C) Dry mouth and blurred vision (D) Alleviation of the symptoms of depression (E) Urinary retention

( ) 5.What is the major mechanism of tricyclic antidepressants on clinical treatment such as amitriptyline: (A) Inhibition of MAO-A activity (B) Block the reuptake of norepinephrine (C) Interference with transmembrane cation fluxes (D) Inhibition of GTP-binding proteins (E) C and D

(每題一分)

( ) 6. 下列何者爲新型之抗憂鬱藥，主要作用機轉在於抑制專屬性 serotonin 之回收作用? (A) amitriptyline (B) bupropion (C) fluoxetine (D) mirtazapine.

( ) 7. 兩種抗憂鬱藥 fluoxetine 與 monoamine oxidase 抑制劑 (MAO-I)併用時，將會導致嚴重副作用，其症狀如高溫、寒戰、肌陣縮症、噁心與昏睡，此徵候群稱爲: (A) dopamine syndrome (B) serotonin syndrome (C) histamine syndrome (D) acetylcholine syndrome

( ) 8. MAO 抑制劑與下面各項成分爲禁忌，何者除外？ (A) ephedrine (B) tricyclic antidepressants (C) beer and cheese (D) aspirin

( ) 9. 下列何者爲新型抗憂鬱藥，主要作用機轉在於拮抗 alpha 2autoreceptor，間接使得 serotonin 釋出量持續增加？
(A) bupropion (B) mirtazapine (C) fluoxetine (D) moclobemide

( ) 10. 一般抗憂鬱藥須服藥一段時間，才具有明顯療效，此現象所根據之機轉爲 (A) activation of muscarinic receptors (B) desensitization of the inhibitory autoreceptors (C) sensitization of the inhibitory autoreceptors (D) desensitization of muscarinic receptors

( ) 11. 下列藥物何者可提高外在行爲之驅使力，但卻不改善病人憂鬱之心境，而易造成自殺？ (A) fluoxetine (B) imipramine (C) amphetamine (D) moclobemide

( ) 12. 有關躁症病患服用鋰鹽 (lithium salts) 之副作用，下列何者錯誤？
(A) 口渴、多尿 (B) 腸胃道不適症 (C) 抗甲狀腺症 (D) 姿態性低血壓