慈濟大學111學年度
碩博士班、博士學位學程暨碩士在職專班
招生考試命題紙

科目：臨床藥學與藥物治療學　　共3頁

本試題卷共 3 頁，選擇題 6 題。

Case 1.

E.W. is a 48-year-old man (height 178 cm, weight 85 kg) admitted to the trauma ICU after a motorcycle collision. E.W. presents with a traumatic brain injury (TBI; head computed tomography [CT] reveals a depressed skull fracture, frontal subarachnoid hemorrhage, and right intraparenchymal hemorrhage), right acetabulum fracture, bilateral rib fractures, and abdominal trauma. According to his abdominal CT, E.W. must go to the operating room for an exploratory laparotomy to undergo repair of several serosal tears. After surgery, E.W. requires significant resuscitation in his first 24 hours of admission (12 L of normal saline). He is made NPO (nothing by mouth) to allow bowel rest. E.W.'s laboratory values are as follows: serum creatinine (SCr) 1.1 mg/dL, blood urea nitrogen (BUN) 17 mg/dL, and white blood cell count (WBC) 19×10^3 cells/mm^3. Pulmonary artery catheterization values are cardiac index 4.2 L/minute/m^2 (normal 2.8–3.6 L/minute/m^2) and central venous pressure 9 mm Hg. His medication therapy includes a fentanyl continuous infusion of 75 mcg/hour, a propofol continuous infusion of 15 mcg/kg/minute, pantoprazole 40 mg intravenously every 24 hours, enoxaparin 30 mg subcutaneously every 12 hours, and phenytoin 150 mg intravenously every 8 hours.

1. **Which is the most accurate assessment of risk factors for the decreased absorption of enterally administered drugs?**
   (20 分)

A. Intestinal atrophy, pantoprazole therapy, abdominal surgery
B. TBI, fentanyl therapy, cardiac output
C. Abdominal surgery, pantoprazole therapy, TBI
D. Intestinal atrophy, cardiac output, fentanyl therapy

2. **Before E.W.'s admission to the ICU, his albumin concentration was 3.8 g/dL, but after surgery, it declines to 2.1 g/dL. Given this change in albumin, which change in total concentration and unbound concentration of propofol would be most likely?**
   (20分)

A. Increased total concentration, decreased unbound concentration
B. No change in total concentration, increased unbound concentration
C. Increased total concentration, no change in unbound concentration
D. Decreased total concentration, increased unbound concentration

3. On postoperative day 3, E.W.'s serum creatinine (SCr) increases to 3 mg/dL. On postoperative day 4, his SCr is 3.2 mg/dL. Which variable for assessing kidney function would be most important for determining dosing adjustments in E.W.?
(15分)

A. BUN/SCr ratio
B. Total daily urine output
C. Estimation of glomerular filtration rate (GFR)
D. History of chronic kidney disease (CKD)

Case 2.

RO is a 59-year-old female admitted to the hospital because of a peripheral smear consistent with AML without suggestion of APL. Bone marrow biopsy evaluation confirmed diagnosis of AML and was consistent with favorable risk AML. Intensive remission induction chemotherapy is planned to start as soon as possible.

Laboratory:
WBC 42 cells/mm3 (4.3 – 10.8 cells/mm^3)
Differential:
basophils 0% (0-1%)
eosinophils 0% (1-3%)
lymphocytes 10% (20-40%)
monocytes 0% (4-8%)
neutrophils bands 4% (0%)
segmented 30% (40-60%)
blasts 65% (0-1%)
Platelets 30,000 (200,000-400,000)
Hgb 9 gm/dl (13-18 gm/dl)
HCT 27% (37-48%)
Cr 1.5 mg/dl (0.5-1.4 mg/dl)
Tbili 0.8 mg/dl (o.3-1.2 mg/dl)

ECHO: Left ventricular ejection fraction >55%

4. Which of the following treatments is best to use as <u>remission induction therapy</u> to treat RO's AML?
(15 分)

A. 7+3, with daunorubicin 45 mg/m^2 /day
B. 7+3, with daunorubicin 90 mg/m^2/day
C. Hyper-CVAD
D. 5-Azacitidine

Case 3

B.P. is a 66-year-old woman who underwent a two-vessel coronary artery bypass graft 8 days ago and has been on a ventilator in the surgical intensive care unit since then. Her temperature is now rising, her chest radiography reveals a new infiltrate in the right lower lobe, and a tracheal aspirate reveals many white blood cells and gram-negative rods. Her medical history includes coronary artery disease with a myocardial infarction 2 years ago, COPD, and hypertension. All antipseudomonal antibiotics in the institution are active against at least 90% of strains. B.P. has no known drug allergies.

5. Which is the best empiric therapy for B.P.?
(15分)

A. Ceftriaxone 1 g intravenously every 24 hours plus gentamicin 7 mg/kg intravenously every 24 hours plus linezolid 600 mg intravenously every 12 hours.
B. Piperacillin/tazobactam 4.5 g intravenously every 6 hours.
C. Levofloxacin 750 mg intravenously every 24 hours plus linezolid 600 mg intravenously every 12 hours.
D. Cefepime 2 g intravenously every 8 hours plus tobramycin 7 mg/kg intravenously every 24 hours plus vancomycin 15 mg/kg intravenously every 12 hours.

Case 4

R.R., a 68-year-old African American woman with HF, presents to your clinic. Comorbidities include HTN and type 2 diabetes. During the past year, she has had two hospitalizations for decompensated HF and significant volume overload with each hospitalization. Her current symptoms are shortness of breath with minimal exertion and 2+ peripheral edema bilaterally. Other pertinent findings include blood pressure 120/72 mm Hg, heart rate 58 beats/minute, SCr 1.60 mg/dL (estimated CrCl 36 mL/minute/1.73 m2), BUN 25 mg/dL, K 5.1 mEq/L, Na 140 mEq/L, Hgb 7.1%, digoxin 0.5 ng/mL, and LVEF 28%. Current medications include enalapril 10 mg twice daily, metoprolol XL (extended release) 150 mg once daily, metformin 500 mg twice daily, digoxin 0.125 mg daily, and furosemide 40 mg twice daily.

6. Which is the best recommendation for R.R.?
(15分)

A. Increase the digoxin dose to 0.25 mg daily.
B. Add spironolactone 25 mg orally daily.
C. Add hydralazine 50 mg orally three times daily and isosorbide dinitrate 20 mg orally three times daily.
D. Add eplerenone 50 mg orally daily.