※ 注意：全部題目均請作答於試卷內之「非選擇題作答區」，請標明題號依序作答。

一、 請閱讀以下文章摘要並回答問題（共 18 分）

Idarucizumab for Dabigatran Reversal — Full Cohort Analysis

Background: Idarucizumab, a monoclonal antibody fragment, was developed to reverse the anticoagulant effect of dabigatran.
Methods: We performed a multicenter, prospective, open-label study to determine whether 5 g of intravenous idarucizumab would be able to reverse the anticoagulant effect of dabigatran in patients who had uncontrolled bleeding (group A) or were about to undergo an urgent procedure (group B). The primary end point was the maximum percentage reversal of the anticoagulant effect of dabigatran within 4 hours after the administration of idarucizumab, on the basis of the diluted thrombin time or ecarin clotting time. Secondary end points included the restoration of hemostasis and safety measures.
Results: A total of 503 patients were enrolled: 301 in group A, and 202 in group B. The median maximum percentage reversal of dabigatran was 100% (95% confidence interval, 100 to 100), on the basis of either the diluted thrombin time or the ecarin clotting time. In group A, 137 patients (45.5%) presented with gastrointestinal bleeding and 98 (32.6%) presented with intracranial hemorrhage; among the patients who could be assessed, the median time to the cessation of bleeding was 2.5 hours. In group B, the median time to the initiation of the intended procedure was 1.6 hours; periprocedural hemostasis was assessed as normal in 93.4% of the patients, mildly abnormal in 5.1%, and moderately abnormal in 1.5%. At 90 days, thrombotic events had occurred in 6.3% of the patients in group A and in 7.4% in group B, and the mortality rate was 18.8% and 18.9%, respectively. There were no serious adverse safety signals.
Conclusions: In emergency situations, idarucizumab rapidly, durably, and safely reversed the anticoagulant effect of dabigatran.

Pollack CV Jr., Reilly PA, van Ryn J, *et al. N Engl J Med* 2017;377:431-441.

(一) 請完整翻譯畫底線的文句。（5 分）

(二) Idarucizumab 的作用機轉是什麼？在治療學上的角色為何？（4 分）

(三) Dabigatran 與其他新型口服抗凝血劑在作用機轉、適應症、解毒劑種類等方面有何異同？（9 分）

見背面

二、 選擇題（共 12 分）

請從以下對全靜脈營養注射（total parenteral nutrition, TPN）的敘述中，選出最正確者，請標明題號作答於試卷內之「非選擇題作答區」。每小題各 4 分。

1. List the requirement of protein in the following patient population from lowest to highest.
   A. Preterm infant < adult patient with renal failure on hemodialysis < adult patient with hepatic failure and encephalopathy < critically ill adult
   B. Adult patient with hepatic failure and encephalopathy < adult patient with renal failure on hemodialysis < critically ill adult < preterm infant
   C. Adult patient with renal failure on hemodialysis < adult patient with hepatic failure and encephalopathy < preterm infant < critically ill adult
   D. Critically ill adult < preterm infant < adult patient with hepatic failure and encephalopathy < adult patient with renal failure on hemodialysis

2. What is the desired glucose infusion rate in critically ill patients?
   A. ≥ 7 mg/kg/min
   B. < 10 mg/kg/min
   C. 5.5 mg/kg/min
   D. ≤ 4 mg/kg/min

3. Which of the followings is the recommended daily parenteral trace element?
   A. Iron (Fe)
   B. Magnesium (Mg)
   C. Copper (Cu)
   D. Aluminum (Al)

三、 簡答題（共 20 分）

以下各藥品分別有不同的療劑監測（therapeutic drug monitoring, TDM）目標值，請簡要說明目標值是什麼、理由為何。每小題各 5 分。

1. Gentamicin
2. Phenytoin
3. Tacrolimus
4. Vancomycin

接次頁

四、 請將下列藥品相對應的法定適應症之代碼，標明題號作答於試卷內之「非選擇題作答區」【答案可能不只一個，可重複選擇】（共 10 分）

題號	藥品
1.	Bevacizumab
2.	Docetaxel
3.	Evolocumab
4.	Isotretinoin
5.	Octreotide
6.	Probenecid
7.	Quetiapine
8.	Sofosbuvir
9.	Teicoplanin
10.	Ticagrelor

適應症
A. Acne
B. Acute coronary syndrome
C. Bipolar disorder
D. Bleeding esophageal varices
E. Chronic hepatitis C
F. Chronic obstructive pulmonary disease
G. HIV infection
H. Hospital-acquired pneumonia
I. Hypercalcemia of malignancy
J. Hyperuricemia
K. Infection of skin and/or subcutaneous tissue
L. Major depressive disorder
M. Malaria
N. Metastatic breast cancer
O. Non-small cell lung cancer
P. Osteoporosis
Q. Primary hypercholesterolemia
R. Rheumatoid arthritis
S. Schizophrenia

見背面

五、 請閱讀以下摘要並回答問題（共 40 分）

Association between Supplemental Nutrition Assistance Program Participation and Cost-Related Medication Nonadherence among Older Adults with Diabetes

Importance: Understanding if the association of social programs with health care access and utilization, especially among older adults with costly chronic medical conditions, can help in improving strategies for self-management of disease.

Objective: To examine whether participation in the Supplemental Nutrition Assistance Program (SNAP) is associated with a reduced likelihood of low-income older adults with diabetes (aged ≥65 years) needing to forgo medications because of cost.

Design, Setting, and Participants: This repeated cross-sectional, population-based study included 1302 seniors who participated in the National Health Interview Survey from 2013 through 2016. Individuals in the study were diagnosed with diabetes or borderline diabetes, were eligible to receive SNAP benefits, were prescribed medications, and incurred more than zero US dollars in out-of-pocket medical expenses in the past year. The data analysis was performed from October 2017 to April 2018.

Exposures: Self-reported participation in SNAP.

Main Outcomes and Measures: Cost-related medication nonadherence derived from responses to whether in the past year, older adults with diabetes delayed refilling a prescription, took less medication, and skipped medication doses because of cost. To estimate the association between participation in SNAP and cost-related medication nonadherence, we used 2-stage, regression-adjusted propensity score matching, conditional on sociodemographic and health and health care–related characteristics of individuals. Estimated propensity scores were used to create matched groups of participants in SNAP and eligible nonparticipants. After matching, a fully adjusted weighted model that included all covariates plus food security status was used to estimate the association between SNAP and cost-related medication nonadherence in the matched sample.

Results: The final analytic sample before matching included 1385 older adults (448 [32.3%] men, 769 [55.5%] non-Hispanic white, and 628 [45.3%] aged ≥75 years), with 503 of them participating in SNAP (36.3%) and 178 reporting cost-related medication nonadherence (12.9%) in the past year. After matching, 1302 older adults were retained (434 [33.3%] men, 716 [55.0%] non-Hispanic white, and 581 [44.6%] aged ≥75 years); treatment and comparison groups were similar for all characteristics. Participants in SNAP had a moderate decrease in cost-related medication nonadherence compared with eligible nonparticipants (5.3 percentage point reduction; 95% CI, 0.5-10.0 percentage point reduction; $P = .03$). Similar reductions were observed for subgroups that had prescription drug coverage (5.8 percentage point reduction; 95% CI, 0.6-11.0) and less than $500 in out-of-pocket medical costs in the previous year (6.4 percentage point reduction; 95% CI, 0.8-11.9), but not for older adults lacking prescription coverage or those with higher medical costs. Results remained robust to several sensitivity analyses.

Conclusions and Relevance: The findings suggest that participation in SNAP may help improve adherence to treatment regimens among older adults with diabetes. Connecting these individuals with SNAP may be a feasible strategy for improving health outcomes.

Pooler JA, Srinivasan M. *JAMA Intern Med* 2019;179(1):63-70.

（一）請以中文簡要敘述此研究之目的、方法與結果。（8 分）

（二）請列出糖尿病治療藥物的藥理類別/作用機轉，並各類至少列舉一藥品學名。（8 分）

（三）請比較上題中各類糖尿病藥物之臨床效果、副作用與治療地位。（24 分）

試題隨卷繳回