一、單選題；每題 2 分，共 30 分 ※ 注意：請於試卷內之「選擇題作答區」依序作答。

1. According to the European Medicines Agency (EMA) label for idecabtagene vicleucel (ide-cel), when should this B-cell maturation antigen (BCMA)-targeted chimeric antigen receptor (CAR) T-cell therapy be used in the treatment of patients with multiple myeloma (MM)?

A. As frontline therapy

B. After 2 or more prior lines of therapy including an immunomodulatory imide drug (IMiD) and a proteasome inhibitor

C. After 3 or more prior lines of therapy including an IMiD, a proteasome inhibitor, and a CD38 antibody with demonstrated progression while receiving the last therapy

D. After prior anti-BCMA therapy

2. Priming and premedication are strategies to mitigate which treatment-emergent adverse event (TEA) in patients with relapsed or refractory multiple myeloma receiving immunotherapy treatment?

A. Cytokine release syndrome

B. Neutropenia

C. Anemia

D. Nail disorders

3. Tapinarof is an aryl-hydrocarbon receptor agonist that can affect transcription of many genes involved in inflammation and skin barrier protection. Which of the following is one of the downstream effects of tapinarof?

A. Decrease T helper (Th) 17 cytokines

B. Increase Th2 cytokines

C. Decrease filaggrin

D. Increase nuclear factor kappa B (NFκB) pathway

4. Roflumilast, a medicine used to treat severe chronic obstructive pulmonary disease (COPD), is a small molecule phosphodiesterase type 4 (PDE4) inhibitor. What molecule does PDE4 catalyze?

A. NFκB

B. CREB

C. cAMP

D. ATF-1

5. Which of the following statements is an accurate summary of current evidence on the risk of major adverse cardiovascular events (MACE) with luteinizing hormone-releasing hormone (LHRH) antagonists and LHRH agonists in patients receiving androgen deprivation therapy (ADT) for prostate cancer?

A. Agonists significantly increase the risk of MACE, but only in patients with a history of MACE.

B. In patients with cardiovascular risk factors, the risk of MACE is equal with agonists and antagonists.

C. Only agonists have been found to significantly increase the risk of MACE.

D. There appears to be less risk of MACE with antagonists than with agonists, but more data are needed.

見背面

6. A 65-year-old man with Stage C heart failure with reduced ejection fraction (HFrEF) does not have diabetes, and his renal function is normal. His cardiologist started him on valsartan/sacubitril, carvedilol, and eplerenone, as well as a diuretic agent to take as needed for excess fluid. In addition to adding sodium-glucose cotransporter-2 (SGLT2) inhibitor therapy, what is the best next step in the management of this patient?

A. Discontinue eplerenone after 8 weeks
B. Uptitrate medications to maximally tolerated therapeutic doses
C. Arrange for magnetic resonance imaging (MRI) to assess global cardiac function
D. Recommend fluid restriction to avoid diuretic use

7. Mr. Chen is a patient with NYHA class III heart failure (LVEF ~42%). During a recent office visit, IV diuretics were given and his N-terminal pro-B-type NP (NT-proBNP) levels were 5,246 pg/mL. According to the 2022 ACC/AHA/HFSA heart failure guidelines, once guideline-directed medical therapy (GDMT) is optimized, what additional treatment should be considered?

A. Ivabradine
B. Digoxin
C. Vericiguat
D. Potassium binders

8. What prescription pharmacotherapy was approved in Europe and the United States in 2022 for treatment of adults with chronic insomnia?

A. Daridorexant
B. Doxepin
C. Suvorexant
D. Trazadone

9. How frequently should a patient with diabetes receive a comprehensive dilated eye examination?

A. Every 6 months
B. Once a year
C. Once every 18 months
D. Once every 2 years

10. Which manifestation of diabetic eye disease can affect the part of the retina needed for reading, driving, and seeing faces, and usually develops in people who already have signs of diabetic retinopathy?

A. Cataract
B. Glaucoma
C. Macular edema
D. Presbyopia

接次頁

11. Currently available sustained-release anti-VEGF therapy-- a ranibizumab port delivery system -- would be appropriate for patients who:

A. Have not responded to intravitreal injections of anti-VEGF therapy
B. Have responded to at least 2 intravitreal injections of anti-VEGF therapy
C. Have tried 2 different VEGF inhibitors
D. Have neovascular age-related macular degeneration (AMD) in general

12. Which is not considered to be a criterion for high bleeding risk (HBR) at the time of percutaneous coronary intervention?

A. Moderate chronic kidney disease (eGFR 30-59 mL/min/1.73 m2)
B. Active cancer
C. Age ≥65 years
D. Long-term use of oral NSAIDs or steroids

13. What medication indicated for bipolar I depression should be avoided in a patient with diabetes and obesity?

A. Cariprazine
B. Lumateperone
C. Lurasidone
D. Olanzapine/fluoxetine combination (OFC)

14. Based on US FDA indications, what agent is approved for treatment of bipolar I depression as adjunctive therapy with lithium or valproate and in pediatric populations?

A. Cariprazine
B. Lumateperone
C. Lurasidone
D. Quetiapine

15. Which of the following agents would be the best choice for managing bipolar II depression with a low risk of weight gain commonly associated with quetiapine?

A. Cariprazine
B. Lumateperone
C. Lurasidone
D. Olanzapine/fluoxetine combination (OFC)

見背面

二、簡答題：閱讀以下文章摘要並回答問題；共 22 分

Aim: To investigate the safety and efficacy of a prasugrel-based dose de-escalation therapy.

Methods: This is a randomised, open-label, multicentre, non-inferiority trial done at 35 hospitals in South Korea. We enrolled patients with acute coronary syndrome receiving PCI. Patients were randomly assigned (1:1) to the de-escalation group or conventional group. The assessors were masked to the treatment allocation. After 1 month of treatment with 10 mg prasugrel plus 100 mg aspirin daily, the de-escalation group received 5 mg prasugrel, while the conventional group continued to receive 10 mg. The primary endpoint was net adverse clinical events (all-cause death, non-fatal myocardial infarction, stent thrombosis, repeat revascularisation, stroke, and bleeding events of grade 2 or higher according to Bleeding Academic Research Consortium [BARC] criteria) at 1 year. The absolute non-inferiority margin for the primary endpoint was 2·5%. The key secondary endpoints were efficacy outcomes (cardiovascular death, myocardial infarction, stent thrombosis, and ischaemic stroke) and safety outcomes (bleeding events of BARC grade ≥2). The primary analysis was in the intention-to-treat population.

Results: 2338 patients were randomly assigned to the de-escalation group (n=1170) or the conventional group (n=1168). The primary endpoint occurred in 82 patients (Kaplan-Meier estimate 7·2%) in the de-escalation group and 116 patients (10·1%) in the conventional group (absolute risk difference −2·9%, p non-inferiority<0·0001; hazard ratio 0·70 [95% CI 0·52–0·92], p equivalence=0·012). There was no increase in ischaemic risk in the de-escalation group compared with the conventional group (0·76 [0·40–1·45]; p=0·40), and the risk of bleeding events was significantly decreased (0·48 [0·32–0·73]; p=0·0007). Interpretation: In east Asian patients with acute coronary syndrome patients receiving PCI, a prasugrel-based dose de-escalation strategy from 1 month after PCI reduced the risk of net clinical outcomes up to 1 year, mainly driven by a reduction in bleeding without an increase in ischaemia.

Source: Lancet 2020;396(10257):1079-89.

1. What is the design of this study? (3 points)
2. How is the intervention assigned? (2 points) Why? (3 points)
3. In your opinion, would you recommend dose de-escalation for your patients? (2 points) Why or why not? (3 points)
4. What is the therapeutic class of prasugrel? (2 points) Please list another drug that belongs to the same class. (2 points)
5. Please explain when and how prasugrel should be used for treatment? (5 points)

三、簡答題：請閱讀並將下面段落文字翻譯成中文；共 8 分

The next challenge for the scientific community will be to find ways to prevent Alzheimer's from damaging brain neurons to begin with, and ongoing trials of other compounds, as well as planned trials using lecanemab and donanemab even earlier in high-risk patients. Blood tests for Alzheimer's will be critical, and researchers are actively working to develop tests to pick up amyloid in the blood.

Source: A New Drug Could Slow Alzheimer's Disease, Data Show. New York Times. November 30, 2022

接次頁

四、簡答題：閱讀以下文章摘要並回答問題；共 22 分

Reducing Inappropriate Polypharmacy
The Process of Deprescribing

Inappropriate polypharmacy, especially in older people, imposes a substantial burden of adverse drug events, ill health, disability, hospitalization, and even death. The single most important predictor of inappropriate prescribing and risk of adverse drug events in older patients is the number of prescribed drugs. Deprescribing is the process of tapering or stopping drugs, aimed at minimizing polypharmacy and improving patient outcomes. Evidence of efficacy for deprescribing is emerging from randomized trials and observational studies. A deprescribing protocol is proposed comprising 5 steps: **① ascertain all drugs the patient is currently taking and the reasons for each one; ② consider overall risk of drug-induced harm in individual patients in determining the required intensity of deprescribing intervention; ③ assess each drug in regard to its current or future benefit potential compared with current or future harm or burden potential; ④ prioritize drugs for discontinuation that have the lowest benefit-harm ratio and lowest likelihood of adverse withdrawal reactions or disease rebound syndromes; and ⑤ implement a discontinuation regimen and monitor patients closely for improvement in outcomes or onset of adverse effects.** Whereas patient and prescriber barriers to deprescribing exist, resources and strategies are available that facilitate deliberate yet judicious deprescribing and deserve wider application.

Scott et al. JAMA Intern Med 2015;175(5):827-34.

1. Describe the definition and goal of deprescribing in Chinese. (4 points)
2. Translate the underlined sentences (marked with ① to ⑤ ahead of the sentences) in Chinese. (10 points)
3. List two possible patient and prescriber barriers to deprescribing. (4 points)
4. Provide two strategies that pharmacists can do to assist in deprescribing. (4 points)

五、簡答題：每 9 分，共 18 分

1. Provide three medications of different pharmacological categories that are commonly used for managing gout flares. Please specify the name, mechanism, common adverse effects/contraindications, and monitoring parameters of each medication. (9 points)

2. Specify three medications of different pharmacological categories that are commonly used for the long-term management of gout. Please specify the name, mechanism, common adverse effects/contraindications, and monitoring parameters of each medication. (9 points)

試題隨卷繳回