請依題號順序作答

一、 85 歲的張女士因非典型肺炎（atypical pneumonia）入院接受抗生素治療，住院其間痛風發作，腳踝關節劇烈疼痛。她同時患有糖尿病、慢性腎衰竭，以前曾有胃潰瘍病史。一位藥學生以 SOAP 分析並擬定這位病人的痛風治療計畫如下，其中至少有五項重要錯誤，請指出並以英文更正之。（簡答題 15 分）

Subjective: Rapid onset of swelling and pain on the left ankle, erythema and edema around the joint, very warm to touch; wheezing, cough with yellow sputum; history of gastric ulcer

Objective: AC 142 mg/dL, 2 hour PC 185 mg/dL, HbA1C 7.8%, BUN 39 mg/dL, serum creatinine 2 mg/dL, 98% on 2L nasal cannula. Height 150 cm, Weight 60 kg. Current medications include ceftriaxone 1 gram IV q24h, azithromycin 250 mg PO daily, glipizide 5 mg PO bid ac, pioglitazone 30 mg PO daily, and furosemide 20 mg PO bid.

Assessment: (1) Colchicine is very safe and effective in the treatment of acute attacks of gout. It should be the drug of choice for Ms. Chang.

(2) Non-steroidal anti-inflammatory drugs (NSAIDs) are an alternative therapy if patients cannot tolerate colchicines. All NSAIDs are contraindicated in patients with history of peptic ulcer disease (PUD) or active PUD. Therefore, Ms. Chang should avoid NSAIDs.

(3) Allopurinol is the most effective urate-lower agent available. It may be considered as long-term prophylaxis if necessary.

(4) Use of diuretics is a risk factor for gout attack. The physician is advised to consider discontinuation of furosemide or continuation with reduced dose if applicable.

Plan: (1) Start colchicine 0.5 – 0.6 mg every hour until diarrhea occurs or maximum dosage of 8 mg is reached.

(2) Monitor prepradial and postprandial glucose, HbA1C, resolution of gout and pneumonia symptoms, BUN, serum creatinine, diarrhea.

(3) Obtain patient's history of gout to determine if long-term prophylaxis using allopurinol is needed.

二、 近年來，『分子標靶治療（molecular-targeted therapy）』（一般簡稱為標靶治療）為治療癌症時的一項新選擇，例如 trastuzumab (Herceptin®)針劑、gefitinib (Iressa®)口服製劑等。請閱讀下一頁期刊論文之摘要，並回答問題：（簡答題共計 10 分，每子題各 5 分）

（一） 請以中文簡要敘述此研究成果。

（二） 文中的 bevacizumab 針劑與 trastuzumab、gefitinib 有哪些物化、藥理特點上的異同？Trastuzumab、gefitinib 最常適用於治療哪種癌症？

見背面

Safety and Efficacy of Oxaliplatin and Fluoropyrimidine Regimens With or Without Bevacizumab As First-Line Treatment of Metastatic Colorectal Cancer: Results of the TREE Study
Hochster HS, Hart LL, Ramanathan RK, et al. J Clin Oncol 2008;26:3523-29.

Purpose
To evaluate the safety and efficacy of three oxaliplatin and fluoropyrimidine regimens, with or without bevacizumab, as first-line treatment for metastatic colorectal cancer (CRC).

Patients and Methods
Patients with histologically documented metastatic or recurrent CRC and no prior treatment for advanced disease were randomly assigned to mFOLFOX6 (bolus and infusion fluorouracil [FU] and leucovorin [LV] with oxaliplatin), bFOL (bolus FU and low-dose LV with oxaliplatin), or CapeOx (capecitabine with oxaliplatin), respectively (Three Regimens of Eloxatin Evaluation [TREE-1 cohort]). The study was later modified such that subsequent patients were randomized to the same regimens plus bevacizumab (TREE-2 cohort).

Results
A total of 150 and 223 patients were randomly assigned in the TREE-1 and TREE-2 cohorts, respectively. Incidence of grade 3/4 treatment-related adverse events during the first 12 weeks of treatment were 59%, 36%, and 67% for mFOLFOX6, bFOL, and CapeOx, respectively, (TREE-1) and 59%, 51%, and 56% for the corresponding treatments plus bevacizumab (TREE-2; primary end point). CapeOx toxicity in TREE-1 included grade 3/4 diarrhea (31%) and dehydration (27%); capecitabine dose reduction to 1,700 mg/m2/d in TREE-2 resulted in improved tolerance. Overall response rates were 41%, 20%, and 27% (TREE-1) and 52%, 39%, and 46% (TREE-2); median overall survival (OS) was 19.2, 17.9, and 17.2 months (TREE-1) and 26.1, 20.4, and 24.6 months (TREE-2). For all treated patients, median OS was 18.2 months (95% CI, 14.5 to 21.6; TREE-1) and 23.7 months (95% CI, 21.3 to 26.8; TREE-2).

Conclusion
The addition of bevacizumab to oxaliplatin and fluoropyrimidine regimens is well tolerated as first-line treatment of mCRC and does not markedly change overall toxicity. CapeOx tolerability and efficacy is improved with reduced-dose capecitabine. First-line oxaliplatin and fluoropyrimidine-based therapy plus bevacizumab resulted in a median OS of approximately 2 years.

三、 Drug Interaction Facts 一書將下列藥品的併用列為『第一級藥品交互作用』，意即臨床上顯著之藥品交互作用。針對每一組併用藥品，請詳述最常發現於哪種病人群（patient population）、可能的不良反應、最適當的臨床處理方式以及理由。（簡答題共計 25 分，每子題各 5 分）

（一） Digoxin + furosemide
（二） Amiodarone + digoxin
（三） Amiodarone + warfarin
（四） Aspirin + warfarin
（五） Atorvastatin + fenofibrate

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四、 請閱讀以下短文，並回答文末之問題（30 分）：

The Neurology Clinic, where Ta-Da Lee, RPh, worked, was part of a large, ambulatory care center for veterans and their dependents. Pharmacist Lee helped establish a number of pharmacist-run clinics for antihypertension drugs, antilipemic agents, and anticoagulant therapies, with good results. Lee was working with Ron-Chi Chen, MD, Medical Director of the Neurology Clinic, to determine the feasibility of an anticonvulsant pharmacotherapy clinic for patients who had been under treatment for seizures for at least 1 year.

Lee accompanied Dr. Chen and several other neurologists as they saw patients in the Neurology Clinic. He listened as they discussed the risks and benefits of various types of anticonvulsant medications and any alternative therapies with each patient. After a week of observing the procedures in the Neurology Clinic, Lee and Dr. Chen met to formalize plans for the pharmacy clinic. Lee stated, "Before we begin discussing details about now the pharmacy clinic will operate, I have a few questions to ask you regarding the type and amount of information you and the other neurologists disclose to patients about the drugs you use to treat their seizures. For example, let's use the drug phenytoin, since it is so commonly prescribed. I notice that you and your colleagues routinely disclose all of the plausible benefits to patients. However, of the many risks associated with the drug, you disclose only 5 or less. Why is that?"

Dr. Chen responded, "Well, I think my colleagues would agree that it is critical to disclose information about risks. Of course you can't tell each patient about every risk. There are just too many. I try and share information about risks that I believe are most likely to occur."

"I'm not so sure about that," Lee said, "There are numerous risks that you and your colleagues didn't disclose that I think would be important for patients to know about before deciding what drug treatment is best for them. For example, I only occasionally heard a neurology disclose the risks of lymphadenopathy, gastrointestinal disturbances, or hirsutism when discussion phenytoin. Granted, some of these risks are not life-threatening. However, a risk like hirsutism occurs in approximately 5 out of every 100 patients taking the drug, and the extra hair does not go away after the patient stops taking the medication. Don't you think patients should routinely be told about all of these risks?"

Dr. Chen answered, "No, I don't. Frankly, I believe that detailed disclosures would make patient less likely to correctly adhere to their prescribed regimens. I think patients would have less confidence in their drugs as a result of the kind of detailed disclosure that you are recommending. I am certain that all of the neurologists in our clinic meet the standard of practice regarding the amount and kinds of information to be disclosed to patients."

（一） 試簡要說明此文內容。

（二） Phenytoin 之可能副作用有那些？

（三） 短文中，藥師與醫師間有何觀點是相左的？

（四） 如果是文中的藥師，你（妳）有何想法？ 會如何回應或處理？

五、 試就下述病例回答問題（20 分）：

林小姐，37 歲，半年前曾因疑似 HSV encephalitis 住院治療，該期間因 seizure attacks 而併用 phenytoin 與 topiramate 迄今。近日回門診就醫時，醫師察覺她臉色蒼白，抽血檢驗發現 pancytopenia，故而再次收入院診治。

林小姐入院前兩週用藥如下：

Estazolam	2 mg/tab	po	2 mg hs
Magnesium oxide	250 mg/tab	po	250 mg tid
Phenytoin	100 mg/tab	po	100 mg qid
Topiramate	100 mg/tab	po	200 mg bid

如果醫療團隊懷疑林小姐之病症可能與用藥相關，進而請教你（妳）的意見，你（妳）會思考那些問題？如何判斷自己的思考正確與否？

試題隨卷繳回