一、 請閱讀以下短文，並回答文末之問題（50 分）：

Hazardous Drugs in Healthcare　　摘錄自 Thomas H. Connor, PhD 文章

The toxicity of antineoplastic drugs in patients has been well-known since their introduction in the 1940s and 1950s. Because most antineoplastic medications have nonselective mechanisms of action, these agents affect noncancerous cells as well as cancerous cells, resulting in numerous adverse effects. When secondary cancers began to develop in patients treated with these drugs, concern was raised that healthcare workers also could be at risk for harmful effects from antineoplastic agents as a result of occupational exposure.

Awareness of the possible adverse health effects in workers during the 1980s prompted several organizations, including the Occupational Safety and Health Administration (OSHA), the Oncology Nursing Society (ONS), and the American Society of Hospital Pharmacists (ASHP, now the American Society of Health-System Pharmacists) to issue safe handling guidelines for antineoplastic drugs. Despite these improvements in guidance and recommendations, more recent studies have shown that workers continue to be exposed to these toxic agents.

In 1995, OSHA updated its recommendations and included some non-antineoplastic medications in its list of hazardous drugs. The National Institute for Occupational Safety and Health (NIOSH) issued an alert in 2004 reviewing literature on hazardous drug exposure and recommending a program of safe drug handling. This alert incorporated a comprehensive list of hazardous drugs that require special handling by healthcare workers. Although most of the drugs are antineoplastic agents, approximately one third are used to treat other diseases. This list was updated and expanded in 2010 to include newly-approved drugs and existing drugs with new health warnings.

With the use of antineoplastic medications expanding into other arenas, the number of healthcare workers who are potentially exposed to hazardous drugs has increased. Rheumatology, dermatology, surgery, and other medical specialties now use antineoplastic and other hazardous drugs to treat patients for a variety of diseases. However, workers in these areas may not be aware of the risks or may not be properly trained in safe handling of these agents.

1. 請翻譯並闡述此文內容。
2. 請說明你（妳）對「hazardous drugs」的認識。
3. 國內有無**過期**或**剩餘**藥品之處理機制？建議或理想之處理方式為何？請亦提供你（妳）的見解或評論？
4. 如果想進一步瞭解或確認各處理方式何者最佳，該如何查詢文獻？亦請具體列舉藥學專業公認的資訊來源數則。
5. 癌症用藥有時會用於**非癌症疾病**之治療或處置，試列舉藥品名數例及各相對應之用途（適應症）與用法？

簡答題（第二~第四題）

二、 65 歲的張先生因鼻咽癌（nasopharyngeal cancer）入院接受化學治療合併放射線治療，其間口腔潰瘍（mucositis）愈來愈嚴重，因此醫師處方口服嗎啡止痛。使用數天後，原本就有的便秘問題日益嚴重。他同時患有高血壓、stage 3 慢性腎病、痛風、膝關節炎。請問治療便秘的藥品有哪幾大類別（每類藥請至少舉一例）、優缺點各是什麼？最適合治療張先生的是哪些藥品？並請詳述治療的原則、應注意事項、與病人用藥教育。（20 分）

見背面

三、 請就下列處方回答問題：(15 分)

1. 請問此張處方缺乏哪些資訊？你還需要哪些資訊才能評估此處方的適當性？(5 分)
2. 這張處方有何問題？合理的處方應該為何？(5 分)
3. 請問你如何發揮專業處理這張處方的問題？處理完後，你應完成哪些藥師專業應做的工作？(5 分)

臺大醫院 ⊕NTUH

國立臺灣大學醫學院附設醫院

院址：臺北市中山南路 7 號　臺北市常德街一號

網址：http://ntuh.mc.ntu.edu.tw

2011/06/10 17:15　臺大醫院門診調劑單

病患姓名	陳 XX 先生		領藥窗口 09
年齡 073	性別 M	80 Kg 身份 N01	領藥號碼 L-8173
科別 MED		醫師 李 XX	病患姓名 陳 XX
診斷 487.1		Influenza	處方日期 2011/06/10
250.0		Diabetes	病歷號碼 225xxxx
428.0		Heart failure	結帳號碼 530xxxx
調劑藥師 陳 XX		複核藥師 朱 XX	第 次領藥

共 02 種

Y 01	TAMIFLU 75 MG (OSELTAMIVIR CAPSULES)	PO	1 CAP	QD	10 TAB 10 天
Y 02	LASIX 40 MG (FUROSEMIDE TABLETS)	PO	0.5 TAB	BIDPC	28 TAB 28 天
Y 03	LANOXIN 0.25 MG (DIGOXIN TABLETS)	PO	1 TAB	BIDPC	56 TAB 28 天
Y 04	GLIBUDON F.C. 500 MG (METFORMIN TABLETS)	PO	1 TAB	TID	84 TAB 28 天
Y 05	ACTOS 30 MG (PIOGLITAZONE TABLETS)	PO	1 TAB	QD	28 TAB 28 天

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接次頁

四、 Methicillin-resistant *Staphyloccocus aureus* (MRSA)菌血症是醫療上棘手的問題。請閱讀以下期刊論文之摘要，並回答問題：(共計 15 分)

1. 請以<u>中文</u>簡要敘述此研究成果。(6 分)
2. 這項研究為何以 daptomycin 與 vancomycin 進行比較？此兩種藥各有什麼特點？它們在治療 MRSA 感染的角色各是什麼？(6 分)
3. 除了 daptomycin 與 vancomycin，還有哪些抗生素可能可用來治療 MRSA 的感染？(3 分)

Daptomycin Versus Vancomycin for Bloodstream Infections Due to Methicillin- Resistant *Staphylococcus aureus* With a High Vancomycin Minimum Inhibitory Concentration: A Case-Control Study

Moore CL, Osaki-Kiyan P, Nadia Z. Haque NZ, et al. *Clinical Infectious Diseases* 2012; 54(1): 51–8.

Background. Reports have found a link between vancomycin treatment failure in methicillin-resistant *Staphyloccocus aureus* (MRSA) bloodstream infections (BSIs) and higher vancomycin minimum inhibitory concentrations (MICs), despite MICs being below the susceptibility breakpoint of 2 μg/mL. Consensus guidelines recommend considering use of alternative agents for infections involving a higher vancomycin MIC, despite few data to support this approach.

Methods. This retrospective case-control study evaluated the effectiveness and safety of vancomycin, compared with that of daptomycin, in the treatment of MRSA BSIs with a high vancomycin MIC (ie, >1 μg/mL).

Results. A total of 118 vancomycin-treated subjects were compared with 59 daptomycin-treated subjects. Clinical failure, defined compositely as mortality, microbiologic failure, and/or recurrence of infection, was numerically lower in daptomycin-treated subjects (31% vs 17%; P = 0.084) and was mainly driven by a lower incidence of mortality in the daptomycin group (20% vs 9%; P = 0.046). Factors independently associated with clinical failure included acute renal failure (odds ratio [OR], 3.91 [95% confidence interval {CI}, 1.05–14.56]) and vancomycin treatment group (OR, 3.13 [95%, CI, 1.00–9.76]). Right-sided endocarditis was independently associated with clinical success (OR, 0.07 [95% CI, 0.01–0.83]). A comparison of 60-day mortality between vancomycin- and daptomycin-treated subjects found a higher probability of survival in the daptomycin-treated group (P = 0.022).

Conclusions. The results demonstrated that daptomycin was associated with a better outcome compared with vancomycin for the treatment of BSIs due to MRSA with higher vancomycin MICs. These findings support the recommendations of recent guidelines, which suggest consideration of the switch to alternative agents when the isolate has a high vancomycin MIC or when patients are not improving during receipt of therapy.

試題隨卷繳回