



The Hong Kong College of Anaesthesiologists
Intermediate Fellowship Examination
Written Paper in Pharmacology

Friday, 5 February 2016, 14:00 - 16:00

The questions carry equal marks. Answer **ALL** questions. For questions with multiple parts, allocation of marks is indicated in the brackets.

1. What are the differences, in the content, between 1 L of PlasmaLyte A and 1 L of 0.9% normal saline? (30%) What are the potential advantages of infusing PlasmaLyte A instead of 0.9% normal saline in critically ill surgical patient? (70%)
2. Compare and contrast the effects of desflurane and propofol on the central nervous system.
3. Based on the underlying mechanisms, classify the side effects of amitriptyline. (50%) Discuss the potential interaction of amitriptyline with drugs commonly used in anaesthetic practice (50%).
4. List the drugs that are commonly used to treat asthma. (20%) Explain their potential side effects and drug interactions that are relevant to anaesthesia. (80%)
5. Write short notes on randomization in clinical trials. In your answer, include the aims of randomization, types of different randomization strategies and limitation(s) of randomization.
6. Discuss how EACH of the following factors influences the effects of local anaesthetic agent:
 - (a) dosage of local anaesthetic agent. (33.3%)
 - (b) addition of adrenaline (epinephrine). (33.3%)
 - (c) pH adjustment. (33.3%)
7. Compare and contrast the pharmacology of clonidine and dexmedetomidine.
8. Explain why remifentanyl should be administered by continuous infusion and not as intermittent boluses.
9. Explain, with examples, the characteristics of competitive antagonists and non-competitive antagonists. (50%) Explain how these antagonists affect the potency of a pure agonist using the dose-response curve. (50%)
10. Describe the clinical features and treatment of organophosphate poisoning.
11. Compare and contrast the mechanism of action, clinical utility, adverse effects and pharmacokinetics of neostigmine and sugammadex for reversal of neuromuscular block.
12. What are the potential adverse effects associated with the use of thiazide diuretics in patients presenting for anaesthesia?

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