



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

Friday, 10 February 2017, 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. Compare and contrast the pharmacology of gelofusine and 5% human albumin.
2. Compare and contrast midazolam and dexmedetomidine with regard to their use as intravenous sedative agents.
3. What is volume of distribution in pharmacokinetics? (40%) What are the features of a drug that will influence its volume of distribution? (60%)
4. Describe the mechanism of action (25%), pharmacodynamics and associated side effects of anti-muscarinic drugs. (75%)
5. Describe the mechanism of action of protamine when used to reverse the effects of heparin. (25%) Outline the side effects of protamine. (75%)
6. List the classes of drugs that are used in the management of postoperative nausea and vomiting, including the mechanism of action, where known, in your answer.
7. Compare the pharmacokinetic parameters of morphine and remifentanyl (50%). Explain the pharmacokinetic profile of remifentanyl that make it useful in situation where the analgesic requirement fluctuates rapidly and when rapid recovery is required (50%).
8. Compare and contrast the pharmacology of aspirin and clopidogrel.
9. What is stereoisomerism? (50%) Describe the effect of stereoisomerism and cardiotoxicity of bupivacaine and levobupivacaine. (50%)
10. Briefly describe the pharmacokinetic properties of paracetamol. (50%) Describe and explain the major difference in pharmacokinetics of paracetamol given intravenously and rectally. (50%)
11. With regard to the analysis of a randomized controlled trial, what is the principle of “intention-to-treat”? (50%) Discuss the advantages and disadvantages of “intention-to-treat” (50%)
12. Define minimal alveolar concentration (MAC) and state the unit used for MAC. (20%) Using isoflurane as an example, explain how MAC may be different when providing anaesthesia in high altitude (atmospheric pressure 380 mmHg) and state if this change will affect administration of anaesthesia (80%)

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