



The Hong Kong College of Anaesthesiologists

Intermediate Fellowship Examination

Written Paper in Pharmacology

Friday 22nd February 2002, 14:00-16:00 hrs

ANSWER ALL QUESTIONS

1. Describe the mechanisms of action, clinical applications and adverse effects of clonidine.
2. Compare the pharmacology of phenylephrine and ephedrine..
3. Illustrate with examples the potential toxic effects of inhalational anaesthetic agents.
4. Briefly list the factors that determine the toxicity of local anaesthetic agents, and explain how the cardiovascular toxicity of ropivacaine is different from that of bupivacaine.
5. Classify the different types of anticholinesterase drugs. Describe their modes of action. What are the side-effects, and how do they produce them?
6. Detail the differences between the COX-1 and COX-2 anti-inflammatory drugs. What are the side-effects of this group of analgesics? Give a brief description of their metabolism and excretion.
7. What are the advantages of transdermal administration of drugs? Are there any disadvantages? Draw a sketch of a plasma concentration-time curve for fentanyl after application of a transdermal patch. Compare it with an intravenous bolus dose of the same drug.
8. What is the difference between a paired and an unpaired Student "t" test? What sort of data should be compared using these tests? Give one example of the use of each test. Are these tests suitable for comparing groups of less than six?
9. Explain the differences in the two pharmacokinetic parameters elimination half-life and context sensitive half-time. Illustrate them with drugs used in anaesthesia.
10. List the problems associated with using warfarin for prevention of venous thromboembolism.
11. Briefly describe the factors that may influence the dose of propofol required for induction of general anaesthesia.
12. Discuss the various pharmacological maneuvers that may be used to prevent postoperative nausea and vomiting.

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