



The Hong Kong College of Anaesthesiologists
Intermediate Fellowship Examination
Written Paper in Physiology
5 March 2021 (Friday)
09:00 - 11:00 hours

- 1. Discuss the pharmacological and clinical effects of adding adrenaline to local anaesthetic solutions.**

- 2. Briefly describe how drugs may produce their pharmacological effects by acting on receptors. Illustrate each mechanism with examples.**

- 3. Describe the pharmacology of amiodarone with respect to its,**
 - i) Mechanism of action (25%)**
 - ii) Metabolism and elimination (25%)**
 - iii) Drug interactions (25%)**
 - iv) Side effects (25%)**

- 4. Outline the uterotonic effects of the following drugs during caesarean section.**
 - i) Synthetic oxytocin (66%)**
 - ii) Carboprost (33%)**

- 5. Discuss on the environmental impact of inhalational anaesthetics in global warming (50%) and how to minimize it (50%).**

- 6. Give examples, with the sites of action described, the antiemetic agents used for prevention or treatment of postoperative nausea and vomiting.**

- 7. Outline the factors that determine the rate of offset of action after stopping an intravenous anaesthetic infusion.**

8. Compare the pharmacokinetic parameters of morphine and remifentanyl (50%). Explain how the pharmacokinetic profile of remifentanyl makes it useful in situations where the analgesic requirement fluctuates rapidly and when rapid recovery is required (50%).

9. Compare and contrast aspirin and clopidogrel with respect to their,
 - i) Mechanism of action (60%)
 - ii) Metabolism (20%)
 - iii) Side effects (20%)

10. Outline pharmacology of ketamine (70%). Describe the clinical applications of ketamine (30%).

11. Explain the individual variations in the latency of muscle relaxants (not including drug-drug interaction).

12. Describe the mechanism of action of neostigmine (40%). Compare and contrast the use of atropine or glycopyrrolate with neostigmine during reversal of neuromuscular blockade (60%).

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