



The Hong Kong College of Anaesthesiologists

Intermediate Fellowship Examination

Written Paper in Pharmacology

Friday, 11 July 2008, 14:00 - 16:00 h

Answer ALL questions

1. Outline the pharmacologic actions of metoclopramide. What are the relative contraindications to its use?
2. How is nitrous oxide manufactured? What are the possible contaminants during the manufacturing process? Briefly outline their adverse effects.
3. In a 50 kg adult patient, how does an intravenous infusion of 100 ml of 20% mannitol, given over 10 min, produce its diuretic effect? Contrast the diuretic effect with those of 100 ml 0.9% normal saline given over the same time period.
4. Outline the cardiovascular effects of desflurane during maintenance of anaesthesia in a patient with ischaemic heart disease.
5. Describe the factors that may shorten the duration of nondepolarising neuromuscular blocking agents.
6. Describe the pharmacological effects of ketamine, given for induction of anaesthesia. Include in your answer the mechanism of action for these effects.
7. Draw a graph to illustrate the essential features of a normal (Gaussian) distribution. In a clinical trial in which you wish to compare the mean of a measured variable in two groups, explain how can you determine whether the data are normally distributed? Discuss and give examples of methods that could be used to compare the data if they are not normally distributed.
8. Outline the potential adverse effects of the chemotherapeutic agents methotrexate (a nucleic acid synthetase inhibitor), doxorubicin (an anthracycline) and bleomycin (an antibiotic) in the peri-operative period.
9. What drugs are use to treat myocardial ischaemia? Indicate for each drug, why it is useful in the treatment of myocardial ischemia, and outline its mechanism of action.
10. List the drugs that exert their action via antagonizing the effects of angiotensin. Describe their pharmacologic effects and mechanism of actions.
11. Describe the adverse effects of pethidine.
12. Using local anaesthetics as examples, explain the mechanism of placental transfer of drugs.

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