

BENZODIAZEPINE AND KETAMINE STUDY GUIDE

THE FOLLOWING ARE TRUE/FALSE, MULTIPLE CHOICE, SHORT ANSWER AND FILL IN THE BLANK QUESTIONS.

1. Ketamine was introduced for human use in 1955 1965 or 1973 and is a phencyclidine derivative.
2. Its molecular weight is 125 238 3500 and its pKa is 7.5 7.8 8.4 and its half- life is 2-3 hours with low protein binding.
3. It has two optical isomers. Which is more potent. In what way?
4. Ketamine-----
activity Vs parent is

metabolism is reduced by halothane ;why?
" " " " diazepam : why?
5. Characteristics of dissociative anaesthesia
 - 1.
 - 2.
 - 3.
 - 4.
 - 5.
6. Short-lived effects because of elimination, metabolism, or redistribution
7. Ketamine has been suggested as drug of choice for SSEPS. Why?
8. Analgesia occurs at blood levels much less than those which result in unconsciousness. True/False
9. Ketamine causes functional disorganization by stimulating the limbic and depressing the cortex and thalamus. True/False
10. NO synthetase inhibitors augment Ketamine hypnotic effects. True/False
11. The NMDA receptor may represent a subgroup of the opiate kappa receptor. True/False and Ketamine can be reversed by naloxone true/false
12. The textbooks state that Ketamine increases ICP because of an increase in CMRO₂ and an even greater increase in CBF. Many of the early studies failed to account for what factor?
Ketamine preserves CO₂ responsiveness. true/ false
13. What is the incidence of emergence reactions in adults?
Mechanism?

14. Ketamine shifts the CO₂ response curve to the RIGHT, LEFT OR FLATTENS THE CURVE?
15. Upper airway tone is maintained and bronchomotor tone is reduced by indirect (catecholamine release) and direct means. Is this mediated by histamine and Ach receptors? Is the effect blocked by beta-blockers? Indomethacin?
16. In vitro, Ketamine is a negative inotrope and chronotrope. Can this occur in the clinical situation? When?
It acts like a local anaesthetic and there is not a significant dose relationship.
17. Ketamine causes increased myocardial work and O₂ consumption. It may increase the sensitivity of the myocardium to epinephrine and does not cause an increase in PulVR in normal adults. true/false.
18. In congenital heart disease there is >= little shift in shunt direction or fraction. true/false.
19. The emergence reactions and cardiovascular responses to ketamine can be significantly blunted by benzodiazepines. true/false
20. Ketamine potentiates NMB's. true/false
21. Ketamine can be safely used in open eye injuries. true/false/maybe?
22. Indications for the use of Ketamine include:
 1. pericarditis and pericardial tamponade
 2. status asthmaticus
 3. trauma
 4. congenital heart disease esp. in R to L shunt
23. In a study comparing caudal Ketamine to bupivacaine , Ketamine was superior. Why?
24. In obstetrical patients for C-section the dose of Ketamine must not exceed 1mg/kg. Why?
25. There are three main types of BNZ's that bind at the GABA receptor. Name them.
26. GABA receptors are mainly found in the CNS but they are also found in the retina and autonomic ganglia. They modulate chloride conductance and have pre and post synaptic effects. They are thought to control the induction of sleep , control neuronal excitability including the suppression of epilepsy, anxiety, memory, and hypnosis. true/ false
27. Which of the following interact with the GABA receptor:
 - 1.halothane
 - 2.propofol
 - 3.barbiturates
 4. all of the above

41. Intrathecal midazolam may be twenty times more potent than morphine against the pain of visceral distention . True/False
42. BNZ's are better analgesics when given peripherally ie in the epidural space , than centrally. True/False
43. Midazolam has the following effect on the CO₂ response curve. FLATTENS, SHIFT TO THE R, SHIFT TO THE L. circle one choice.
44. BNZ's produce vasodilatation by endothelial dependent factors mediated by NO release. Given alone, midazolam maintains homeostatic reflexes although it cause a slight decrease in SVR. The drug is safe in aortic stenosis. True/False
45. Midazolam has a nitroglycerin-like effect on increased LVEDP. True/False
46. Diazepam, when used for sedation is prone to enterohepatic recirculation esp. in the elderly. True/False
47. An appropriate dose for midazolam induction is about 0.2mg/kg, although there is a wide variation and about a 25% reduction necessary in the elderly. Should you increase the dose for an obese patient? YES/NO
48. It is worthwhile to add midazolam(30-45umg/kg) as a loading dose to an infusion of diprivan to prevent intraoperative recall. TRUE/FALSE
49. Flumazenil in a dose of 3.0mg will provide 45-90 minutes of antagonism. Higher does are required to antagonize lorazepam. TRUE/FALSE
50. The adverse effects of diazepam on the fetus with an induction dose of 0.3mg/kg are:
1. hypotonia
 2. hypothermia
 3. lethargy
 4. all of the above