

Anesthesiology Rounds
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Cannabis (marijuana) and anesthesia

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Objectives:

This issue will help the reader to become familiar with:

- the source and main forms of cannabis preparations
- the pharmacokinetics of cannabinoids
- the pharmacodynamics of cannabinoids
- the differences between the acute and chronic effects of cannabis use
- the various interactions between cannabis use and anesthetic practice.

Questions (only 1 answer is correct)

1. Which of the following statements about cannabis is false?

- a) The elimination half-life of cannabis is 56 hours for chronic users and 28 hours for occasional users.
- b) The different types of cannabis preparations come from the different parts of the female plant.
- c) Delta-9-tetrahydrocannabinol is the least potent psychoactive compound among the known cannabinoids.
- d) Cannabinoids are highly liposoluble and complete elimination of a single dose can take up to 30 days.

2. Which of the following statements about cannabinoids is false?

- a) With inhalation, peak effect of cannabinoids is reached quickly and duration is brief, with up to 50% bioavailability.
- b) The 3A4 and 2C subfamilies of cytochrome P 450 account for 20% of cannabinoid metabolism and renal excretion accounts for 80%.
- c) The central CB₁ receptors have constitutive expression while the peripheral CB₂ receptors are induced by inflammation.
- d) There is significant interaction between the endogenous cannabinoid receptors and many other systems (opiate, GABA, dopaminergic, noradrenergic, serotonergic, cholinergic, prostaglandin and glucocorticoid).

3. Which of the following statements about the effects of cannabis is false?
- a) Its acute effect primarily involves the CNS and euphoria is the most sought-after effect among cannabis users.
 - b) The cardiovascular effects of cannabis use are tolerated rather well by healthy patients.
 - c) Smoking cannabis does not produce as heavy a respiratory load of particles and COHb as smoking tobacco, when the same amount is used.
 - d) Mothers who use cannabis before and during pregnancy have babies with lower birthweights.

4. Which of the following statements about anesthetizing a cannabis user is false?
- a) Less anesthetic is needed with acute use, and more in cases of chronic use.
 - b) Cannabis can potentiate the hypnotic and sedative effects of anesthetic drugs such as barbiturates, opiates, and benzodiazepines.
 - c) Ventilation and/or oxygenation complications can occur under general anesthesia.
 - d) Intravenous dexamethasone is an effective treatment for acute uvulitis associated with the use of cannabis.
 - e) Psychiatric reactions or withdrawal symptoms can be expected from cannabis users during induction and emergence.

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