Acepromazine

Acepromazine is a phenothiazine tranquilizer known to antagonize the actions of dopamine in the limbic, hypothalamic, and mesocortical regions of the brain.

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Overview

Acepromazine may be administered via multiple routes, including orally.

Tranquilized patients generally are not concerned about their surroundings.
- Muscle relaxation may be observed, and the dose requirements for induction and maintenance anesthetic agents are reduced.[1]
- Acepromazine also has potentially beneficial antiemetic and weak antihistaminic effects.[1]

Although acepromazine has a wide margin of safety, knowledge of its unique characteristics and generally dose-dependent side effects should guide its use.

Anecdotally, phenothiazines are thought to reduce dominance-associated aggressive behaviors, but fear-related behaviors may remain and the occasional patient may become more aggressive following administration.[2,3]

Acepromazine does not provide analgesia and will not block the conscious patient's response to noxious stimuli.
- Concurrent use of analgesics is advised for noxious procedures.
- When used as part of a premedication plan, doses considerably lower (0.01-0.05 mg/kg IV, IM, SC) than those listed on the label are effective.[1]

Acepromazine is extensively metabolized by the liver and has a dose-dependent and relatively long duration of action (4-7 hours), with reports suggesting a need to re-dose at 6- to 8-hour intervals, depending on the desired level of tranquilization.[4] Prolonged sedation may be observed in patients with compromised hepatic function.

There is no receptor-based antagonist for acepromazine.
- Although drug effects (eg, hypotension) may be ameliorated, they cannot be directly antagonized.

Adverse Events

Decreased blood pressure can occur, even with very low IV doses (0.001-0.005 mg/kg).[5]
- Following premedication, hypotension caused by vasodilation resulting from peripheral α_1-adrenergic blockade is frequently observed.
  - —Acepromazine use in hypovolemic or hypotensive patients is discouraged.
  - —This blockade is also thought to be the mechanism by which acepromazine protects against catecholamine-induced dysrhythmias.[4]

Phenothiazines have reportedly lowered the seizure threshold when administered in conjunction with seizurogenic agents (eg, metrizamide for myelography).[6,7]
- More recent reports have shown that increased incidence of overt seizurogenic activity has not been associated with use of acepromazine and that its use has been recommended in animals with the potential for seizures.[8]

Occasional anecdotal reports of unexpected collapse following

Acepromazine should be avoided in patients undergoing skin testing for allergies.[10]

acepromazine administration to boxers of UK lineage have been cited.

- Reportedly more likely with higher doses administered IV[9]

Warnings

⚠ Decreased packed cell volume and inhibition of platelet function may preclude acepromazine use in patients with anemia or platelet-related bleeding disorders.[4]

⚠ Because of its weak antihistaminic effects, this drug should be avoided in patients undergoing skin testing for allergies.[10]

⚠ Dogs with the P-glycoprotein (ie, *MDR1* [*ABCB1-1Δ*]) gene deletion variant may be more sensitive to the tranquilizing effects of acepromazine, and duration of drug effects may be prolonged.

See **Problems & Solutions on *MDR1* gene mutation**, page 12 of this issue, for more information on the effects associated with acepromazine use as a tranquilizer and preanesthetic.

⚠ When used at a dose of 0.1 mg/kg, acepromazine can decrease gastroesophageal sphincter pressure in dogs and may increase the risk for gastroesophageal reflux.[11,12]

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