DRUG NAME: Ketamine Hydrochloride

TRADE NAME: Ketamine, Ketanest, Ketaset, Ketalar

REVISED: May 1, 2012

Class:
- Dissociative anesthetic
- NMDA receptor antagonist

Mechanism of Action: Exact mechanism unknown.
Ketamine acts on cortex and limbic receptors, producing dissociative analgesia and sedation. Higher doses act on the Mu opioid receptor.

Indications:
- For use in medication assisted intubation in conjunction with a paralytic

Relative Contraindications:
- Most contraindications are related to the release of catecholamines increasing hypertension and tachycardia.
  - Hypertensive Crisis
  - Under the influence of methamphetamine or other similar drug
- Acute globe injury or glaucoma
  - Increased intraocular pressure
- When significant elevations in BP might prove harmful:
  - Aortic dissection
  - Acute Myocardial Infarction, angina
  - Intracranial hemorrhage
- Schizophrenia
  - Increases psychosis
- Consider use of versed in above contraindications

Dosage:
Adults/Peds:
- 2mg/kg slow IV push one minute prior to paralytic administration

Onset:
- 45-60 seconds
- Wait to give paralytic until onset of action

Duration:
- 5-15 minutes IV

Side Effects:
- Vivid Dreams
- Hallucinations
- Delirium
- Recovery Agitation
- Tachycardia
- Hypertension
- Dysphoria
- Hypersalivation
- N/V
- Anaphylaxis
- Reemergence phenomenon
- Arrhythmias
- CNS Depression
- Respiratory Depression
Interactions:

Additive/Potentiation Effects:
- Any medication that stimulates catecholamine release will result in hypertension, tachycardia and arrhythmias
- Benzodiazepines increase respiratory and CNS depression
- Opiates will increase respiratory and CNS depression
- Sedative hypnotics will increase respiratory and CNS depression

Physician PEARLS:
- Because of the dissociative state many patients sedated with ketamine do not close their eyes
- Ketamine is the only anesthetic producing analgesia, hypnosis and amnesic effects
- In usual doses, protective airway reflexes, spontaneous respirations and cardiopulmonary functions are maintained
- Ketamine lacks the progressive dose-response relationship
- Ketamine produces a dose-related increase of heart rate and blood pressure which makes Ketamine the preferred induction agent for hypotensive patients
- Ketamine has demonstrated beta-adrenergic and vagolytic properties, which includes beta-2 stimulation making Ketamine the ideal induction agent for people with reactive airway disease/asthma.
- Ketamine increases salivary and bronchial mucous gland secretion through stimulation of cholinergic receptors, however it does not require Atropine for pretreatment
- Try to provide a calm, quiet atmosphere
- A single dose of Ketamine should last 5-15 minutes
- Rapid administration of Ketamine will cause apnea
- Reemergence phenomenon is a known entity. Consider benzodiazepines for continued sedation
- Pregnancy Category has not been established