

# Ketalar

## Ketamine Hydrochloride

### Presentation

*Ketalar IM/IV Injection:* Each ml contains Ketamine Hydrochloride BP equivalent to 50 mg Ketamine.

### Description

Ketamine is a rapid-acting, nonbarbiturate general anesthetic. It produces an anesthetic state characterized by profound analgesia. The anesthetic state produced by Ketamine has been termed "dissociative anesthesia" (A form of general anesthesia characterized by catalepsy, catatonia, and amnesia, but not necessarily involving complete unconsciousness). Ketamine is frequently described as a "unique drug" because it has hypnotic (sleep producing), analgesic (pain relieving) and amnesic (short term memory loss) effects - no other drug used in clinical practice combines these three important features. It was first used clinically in 1970, and because of these combined effects it was thought that it might be the perfect anesthetic agent.

### Indication

Ketamine Hydrochloride injection is indicated as the sole anesthetic agent for diagnostic and surgical procedures that do not require skeletal muscle relaxation. Ketamine Hydrochloride injection is best suited for short procedures, But it can be used, with additional doses, for longer procedures. Specific areas of application have included the following:

1. Debridement, painful dressings, and skin grafting in burn patients, as well as other superficial surgical procedures.
2. Neurodiagnostic procedures such as pneumoencephalograms, ventriculograms, myelograms, and lumbar punctures.
3. Diagnostic and operative procedures of the eye, ear, nose and mouth, including dental extractions.

Ketamine Hydrochloride injection is indicated for the induction of anesthesia prior to the administration of other general anesthetic agents.

Ketamine Hydrochloride injection is indicated to supplement low-potency agents, such as nitrous oxide.

### Dosage and Administration

*Onset and Duration:* Because of rapid induction following the initial intravenous injection, the patient should be in a supported position during administration. The onset of action of Ketamine is rapid, an intravenous dose of 2 mg/kg of body weight usually produces surgical anesthesia within 30 seconds after injection, with the anesthetic effect usually lasting 5 to 10 minutes. If a longer effect is desired, additional increments can be administered intravenously or intramuscularly to maintain anesthesia without producing significant cumulative effects. Intramuscular doses, from experience primarily in children, in a range of 9 to 13 mg/kg usually produce surgical anesthesia within 3 to 4 minutes following injection, with the anesthetic effect usually lasting 12 to 25 minutes.

### Induction

*Intravenous Route:* The initial dose of Ketamine administered intravenously may range from 1 mg/kg to 4.5 mg/kg. The average amount required to produce 5 to 10 minutes of surgical anesthesia has been 2 mg/kg. In adult patients an induction dose of 1 mg to 2 mg/kg intravenous Ketamine at a rate of 0.5 mg/kg/mm may be used for induction of anesthesia. In addition, diazepam in 2 mg to 5 mg doses, administered in a separate syringe over 60 seconds, may be used. In most cases, 15 mg of intravenous diazepam or less will suffice. The incidence of psychological manifestations during emergence, particularly dream-like observations and emergence delirium, may be reduced by this induction dosage program. Rate of Administration: It is recommended that Ketamine be administered slowly (over a period of 60 seconds). More rapid administration may result in respiratory depression and enhanced pressor response.

*Intramuscular Route:* The initial dose of Ketamine administered intramuscularly may range from 6.5 to 13 mg/kg. A dose of 10 mg/kg will usually produce 12 to 25 minutes of surgical anesthesia.

*Maintenance of anesthesia:* Increments of one half to the full induction dose, either IV or IM may be repeated as needed for maintenance of anesthesia. Nystagmus, movements in response to stimulation, and vocalization may indicate lightening of anesthesia.

### Side Effects

*Cardiovascular:* Blood pressure and pulse rate are frequently elevated following administration of Ketamine alone. However hypotension and bradycardia have been observed. Arrhythmia has also occurred.

*Respiration:* Although respiration is frequently stimulated, severe depression of respiration or apnea may occur following rapid intravenous administration of high doses of Ketamine. Laryngospasms and other forms of airway obstruction have occurred during Ketamine anesthesia.

*Eye:* Diplopia and nystagmus have been noted following Ketamine administration. It also may cause a slight elevation in intraocular pressure measurement.

*Neurological:* In some patients, enhanced skeletal muscle tone may be manifested by tonic and clonic movements sometimes resembling seizures. Gastrointestinal: Anorexia, nausea and vomiting have been observed; however, this is not usually severe.

### Drug Interactions

Prolonged recovery time may occur if barbiturates and/or narcotics are used concurrently with Ketamine. Ketamine is clinically compatible with the commonly used general and local anesthetic agents when an adequate respiratory exchange is maintained.

### Contraindications

Ketamine is contraindicated in those in whom a significant elevation of blood pressure would constitute a serious hazard and in those who have shown hypersensitivity to the drug.

### Precaution

Ketamine should be used by or under the direction of physicians experienced in administering general anesthetics and in maintenance of an airway and in the control of respiration. Because pharyngeal and laryngeal reflexes are usually active, Ketamine should not be used alone in surgery or diagnostic procedures of the pharynx, larynx, or bronchial tree. Mechanical stimulation of the pharynx should be avoided, whenever possible, if Ketamine is used alone. The intravenous dose should be administered over a period of 60 seconds. More rapid administration may result in respiratory depression or apnea and enhanced pressor response. In surgical procedures involving visceral pain pathways, Ketamine should be supplemented with an agent which obtunds visceral pain.

### Usage in Pregnancy

Since the safe use in pregnancy, including obstetrics (either vaginal or abdominal delivery), has not been established, such use is not recommended.

### Overdosage

Respiratory depression may occur with overdosage or too rapid a rate of administration of Ketamine, in which case supportive ventilation should be employed. Mechanical support of respiration is preferred to administration of analeptics. Ketamine has a wide margin of safety; several instances of unintentional administration of overdoses of Ketamine (up to 10 times the usually required dose) have been followed by prolonged but complete recovery.

### Pharmaceutical Precautions

Store in a cool dry place protected from light. Keep out of reach of children.

### Commercial Pack

*Ketalar IM/IV Injection:* Each box contains 1 vial of 10 ml.

Manufactured by:



**POPULAR PHARMACEUTICALS LTD.**  
TONGI, GAZIPUR, BANGLADESH

