etomidate

High Alert

Classifications
Therapeutic: general anesthetics
Pharmacologic: nonbarbiturates
Pregnancy Category C

Indications
Induction of general anesthesia. Supplemental anesthesia with other agents (usually inotropes, vasopressors, or calcium-channel blockers) for short procedures.

Pharmacokinetics
Absorption: IV administration results in complete bioavailability.
Distribution: Distributes rapidly from blood into CNS, followed by rapid clearance and tissue distribution.
Metabolism and Excretion: Mostly metabolized by the liver. 75% excreted in urine as inactive metabolite; 10–13% excreted in bile and feces.
Half-life: 1.25–5 hr.

Route/Dosage
IV (Adults and Children ≥10 yr): 0.2–0.6 mg/kg (usual dose is 0.3 mg/kg) for induction. Smaller increments may be used during short procedures to supplement other agents.

NURSING IMPLICATIONS
Assessment
● Assess respiratory status, pulse, and BP continuously throughout etomidate therapy. May cause brief periods of apnea. Maintain patent airway and adequate ventilation.
● Assess level of sedation and level of consciousness throughout and following administration.
● May cause pain at injection site lasting 1–5 min. Pain is less frequent when larger veins are used for injection.
● Facility and Overdose: If overdose occurs, monitor pulse, respiration, and BP continuously. Maintain patent airway and assisted ventilation as needed.

Potential Nursing Diagnoses
Ineffective breathing pattern (Indications)
Risk for injury (Adverse Reactions)

Implementation
● High alert: Etomidate should be used only by individuals experienced in endotracheal intubation. Equipment for airway management should be readily available.
● Dose is titrated to patient response.
● Etomidate has no effect on the pain threshold. Adequate analgesia should be used when etomidate is used as an adjunct to surgical procedures.

Adverse Reactions/ Side Effects

Interactions
Drug-Drug: CNS depression with other CNS depressants including antihistamines, antidepressants, sedative/hypnotics, antipsychotics and opioids. Drug interactions show additive effect. etomidate: Risk of respiratory depression and apnea.

Precautions
Contraindications: Hypersensitivity; Prolonged infusion not recommended (suppresses cortisol production); OB: Pregnancy, labor, delivery (including cesarean section).
Use Cautiously: Patients undergoing severe stress (may require supplemental anesthetics); Geriatric patients; Lactation: Safety not established; Pedi: Children <10 yr (safety not established).
Opioid analgesics, such as fentanyl, may be administered immediately prior to etomidate to provide analgesia, minimize pain at injection site and involuntary muscle movements. Diazepam may also be used to reduce incidence and magnitude of involuntary muscle movements.

**IV Administration**
- **Direct IV**: Administer undiluted. **Rate**: Administer slowly over 30–60 seconds. Titrate to desired level of sedation.
- **Y-Site Compatibility**: alfentanil, atracurium, atropine, dexmedetomidine, doxacurium, ephedrine, fentanyl, lidocaine, ketamine, midazolam, morphine, pancuronium, phenylephrine, vecuronium, sufentanil.
- **Y-Site Incompatibility**: ascorbic acid, vecuronium.

**Patient/Family Teaching**
- Inform patient of the purpose of medication.
- May cause drowsiness or dizziness. Advise patient to request assistance prior to ambulation and transfer and to avoid driving or other activities requiring alertness for 24 hr following administration.
- Advise patient to avoid alcohol or other CNS depressants without the advice of a healthcare professional for 24 hr following administration.

**Evaluation/Desired Outcomes**
- Induction and maintenance of anesthesia.

*Why was this drug prescribed for your patient?*