ropivacaine (roe-pi-vi-kane)

Naropin

Classification
Therapeutic: epidural/local anesthetics, anesthetics (topical/local)

Pregnancy Category B

Indications
Local or regional anesthesia for surgery; Acute pain management

Action
Local anesthetics inhibit initiation and conduction of sensory nerve impulses by altering the influx of sodium and efflux of potassium in neurons, slowing or stopping pain transmission.

Therapeutic Effects:
Decreased pain or induction of anesthesia; low doses have minimal effect on sensory or motor function; higher doses may produce complete motor blockade.

Pharmacokinetics
Absorption: Systemic absorption follows epidural administration, but amount absorbed depends on dose.

Distribution: If systemic absorption occurs, this agent is widely distributed and crosses the placenta.

Metabolism and Excretion: Small amounts that may reach systemic circulation are mostly metabolized by the liver; 1% excreted unchanged in the urine.

Half-life: 4.2 hr (after epidural use).

TIME/ACTION PROFILE (analgesia)

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epidural</td>
<td>15–25 min</td>
<td>unknown</td>
<td>2–8 hr†</td>
</tr>
</tbody>
</table>

†Duration of anesthetic block

Contraindications/Precautions
Contraindicated in: Hypersensitivity; cross-sensitivity with other amide local anesthetics may occur (bupivacaine, lidocaine, mepivacaine, prilocaine).

Use Cautiously in: Concurrent use of other local anesthetics; Liver disease; Concurrent use of anticoagulants (including low-dose heparin and low-molecular-weight heparin/hirudin) [the risk of spinal/epidural hematoma].

Adverse Reactions/Side Effects
CNS: SEIZURES, anxiety, dizziness, headache, rigors.

CV: CARDIOVASCULAR COLLAPSE, arrhythmias, bradycardia, chest pain, hypertension, hypotension, tachycardia.

GI: nausea, vomiting.

GU: urinary retention.

Derm: pruritus.

F and E: hypokalemia, metabolic acidosis.

Hemat: anemia.

Neuro: circumoral tingling/numbness, paraesthesia.

Resp: dyspnea.

MS: chondrolysis.

Misc: allergic reactions, fever.

Interactions
Drug-Drug: Additive toxicity may occur with concurrent use of other amide local anesthetics (including lidocaine, mepivacaine, and prilocaine). Fluvoxamine, amiodarone, ciprofloxacin, and propofol may ↑ the effects of ropivacaine.

Route/Dosage

Surgical Anesthesia
Epidural (Adults):
Lumbar epidural—15–30 mL of 0.5% solution or 15–25 mL of 0.75% solution or 15–20 mL of 1% solution; Lumbar epidural for cesarean section—20–30 mL of 0.5% solution or 15–20 mL of 0.75% solution; Thoracic epidural—5–15 mL of 0.5–0.75% solution.

Major nerve block (Adults): 35–50 mL of 0.5% solution or 10–40 mL of 0.75% solution.

Field block (Adults): 1–40 mL of 0.5% solution.

Labor Pain
Epidural (Adults):
Lumbar epidural—15–30 mL of 0.5% solution or 15–25 mL of 0.75% solution or 10–20 mL of 1% solution; Lumbar epidural for cesarean section—20–30 mL of 0.5% solution or 15–20 mL of 0.75% solution; Thoracic epidural—5–15 mL of 0.5–0.75% solution.

Field block (Adults): 1–40 mL of 0.5% solution.

Postoperative Pain
Epidural (Adults): 10–20 mL of 0.2% solution initially, then continuous infusion of 6–14 mL/hr of 0.2% solution with incremental injection of 10–15 mL/hr of 0.2% solution.

Infiltration (minor nerve block) (Adults): 1–100 mL of 0.2% solution or 1–40 mL of 0.5% solution.

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CNS: SEIZURES, anxiety, dizziness, headache, rigors.

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NURSING IMPLICATIONS

Assessment
- Monitor for sensation during procedure and return of sensation after procedure.
- Systemic Toxicity: Assess for systemic toxicity (circumoral tingling and numbness, ringing in ears, metallic taste, disorientation, tinnitus, blurred vision, tremors, slow speech, irritability, twitching, seizures, cardiac dysrhythmias). Report to anesthesiologist.
- Orthostatic Hypotension: Monitor HR, heart rate, and respiratory rate continuously while patient is receiving the medication. Mild hypotension is common because of the effect of local anesthetic block of nerve fibers on the autonomic nervous system, causing vasodilation. Significant hypotension and headaches may occur, especially when rising from a prone position or following large dose increases or boluses. Treatment of unresolved hypotension may include hydration, decreasing the epidural infusion rate, and/or removal of local anesthetic from analgesic solution.
- Unwanted Motor and Sensory Deficit: Low-dose local anesthetics are added to epidural opioids for pain management to provide analgesia, not to produce anesthesia. Patients should be able to ambulate if their condition allows; epidural analgesic should not hamper ambulation. Location of epidural catheter, local anesthetic dose, and variability in patient response can result in unwanted motor and sensory deficits. Pain is the first sensation lost, followed by temperature, touch, proprioception, and skeletal muscle tone.
- Assess for sensory deficit every shift. Ask patient to point to numb and tingling skin areas (numbness and tingling at the incision site is common and usually normal). Notify health care professional of unwanted motor and sensory deficits.

Implementation
- See Route and Dosage section.

Patient/Family Teaching
- Instruct patient to notify nurse if signs or symptoms of systemic toxicity occur.
- Advise patient to request assistance during ambulation until orthostatic hypotension and motor deficits are ruled out.

Evaluation/Desired Outcomes
- Decrease in postoperative pain without unwanted sensory or motor deficits.

Why was this drug prescribed for your patient?