bupivacaine liposome (injection)
(byoo-pi-vak-eye lip-oh-some)
Exparel
Classification
Therapeutic: anesthetics (topical/local)
Pharmacologic: amides
Pregnancy Category: C

Indications
Postoperative single-use infiltration of surgical sites.

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. Liposome formulation prolongs the duration of action. Therapeutic Effects: Lessened postoperative pain.

Pharmacokinetics
Absorption: Depends on amount injected and vascularity of administration site. Some systemic absorption occurs; however action is primarily local.
Distribution: Widely distributed following release from liposomes, high concentrations in highly perfused organs (heart, lungs, liver, brain); Crosses the placenta.
Protein Binding: 95%.
Metabolism and Excretion: Mostly metabolized by the liver, metabolites are primarily renally excreted; 6% excreted unchanged in urine.
Half-life: Following bunionectomy—34.1 hr; following hemorrhoidectomy—23.8 hr.

TIME/ACTION PROFILE (blood levels)
ROUTE ONSET PEAK DURATION
infiltration unknown 0.5–2 hr 96 hr†
† Pain relief lasted for 24 hr.

Contraindications/Precautions
Contraindicated in: Hypersensitivity; cross-sensitivity with other amide local anesthetics (ropivacaine, lidocaine, mepivacaine, prilocaine) may occur; OR (historical, cranial paracervical block anesthesia may cause fetal bradycardia and death).
Use Cautiously in: Impaired cardiovascular function; Hepatic disease; OB, Lactation, Pedi: Pregnancy, lactation, and children <18 yr (safety has not been established).

Adverse Reactions/Side Effects
CNS: CENTRAL NERVOUS SYSTEM TOXICITY, dizziness, drowsiness, headache, insomnia.
CV: peripheral edema, prolonged AV conduction, tachycardia.
GI: constipation, nausea, vomiting.
Derm: pruritus.
Hemat: anemia.
MS: back pain, muscle spasm.
Misc: hypersensitivity reactions including ANAPHYLACTOID-LIKE REACTIONS and LARYNGEAL EDEMA, fever, procedural pain.

Interactions
Drug-Drug: Should not be administered concurrently with local lidocaine; wait at least 20 minutes before infiltration with bupivacaine liposome. Should not be admixed with other local anesthetics. Should not be used within 96 hr of other formulations of bupivacaine; overall exposure and risk of toxicity/adverse reactions will be...

Route/Dosage
Infiltration (Adults):
Bunionectomy—106 mg (8 mL) given as 7 mL into osteotomy and 1 mL into subcutaneous tissue; Hemorrhoidectomy—266 mg (20 mL) diluted to a volume of 30 mL and given as six 5 mL aliquots.

NURSING IMPLICATIONS
Assessment
● Assess infiltrated area for pain following administration and periodically during therapy.
● Monitor cardiovascular and respiratory status (vital signs, level of consciousness) constantly following infiltration. Notify health care professional immediately if signs of cardiac toxicity (atrioventricular block, ventricular arrhythmias, cardiac arrest) occur.
● Monitor for central nervous system toxicity. Notify health care professional promptly if they occur. Early signs of central nervous system toxicity include (restlessness, agitation), late signs indicate most frequent (hypotension, respiratory depression, hypothermia).
Lessons, urinary, incontinence, speech, lightheadedness, numbness and tingling of
the mouth and lips, metallic taste, tinnitus, dizziness, blurred vision, tremors,
reeling, depression or dizziness.

- Monitor for signs and symptoms of allergic reactions (urticaria, pruritus, edema, angioedema edema, hoarseness, edema, asthma, hoarseness, flushing, nausea, vomiting, syncope, excessive sweating, elevated temperature, severe hypotension). Have resuscitation equipment available.

**Potential Nursing Diagnoses**

- Acute pain (Indications)

**Implementation**

- Do not confuse with propofol. In a syringe suspension is milky white and
  may be mistaken for other medications. Label syringe to ensure dose is not administered.

- Dilution: May be administered undiluted or diluted with preservative-free
  0.9% NaCl or 0.9% glucose. Invert vial multiple times to re-suspend particles im-
  mediately prior to withdrawal from vial. Injected with a 25-gauge or larger bore
  needle slowly into soft tissues of surgical site with frequent aspiration to check for
  blood and minimize risk of intravascular injection. Use diluted suspension within
  4 hrs of preparation in a syringe. Vials for single dose; discard unused por-
  tions. May be stored in refrigerator for up to 1 month prior to opening. Do not use
  if solution is discolored or has been frozen, freeze indicator turns from green to
  white when exposed to freezing temperatures.

- Do not administer in an area with povidone iodine until dry. If administered with
  other non-bupivacaine local anesthetics, administer other agents first and wait at
  least 20 min before infiltrating with bupivacaine liposome. Do not administer
  other forms of bupivacaine within 96 hr of bupivacaine liposome.

**Patient/Family Teaching**

- Inform patient that infiltration may cause temporary loss of sensation or motor ac-
  tivity in infiltrated area.

- Instruct patient to avoid excessive hydration and water intake if given orally. Health care professional of pregnancy is known or sus-
  pected of breastfeeding.

**Evaluation/Desired Outcomes**

- Prolongation of postoperative analgesia.

**Why was this drug prescribed for your patient?**