dinoprostone (dye-noe-prost-one)

Cervidil Vaginal Insert, Prepidil Endocervical Gel, Prostin E Vaginal Suppository

Classification
Therapeutic: cervical ripening agent
Pharmacologic: oxytocics, prostaglandins

Pregnancy Category C

Indications
Endocervical Gel, Vaginal Insert: Used to "ripen" the cervix in pregnancy at or near term when induction of labor is indicated. Vaginal Suppression: Indication of midtrimester abortion, Management of missed abortion up to 24 wk, Management of nonmetastatic gestational trophoblastic disease (benign hydatidiform mole).

Action
Produces contractions similar to those occurring during labor at term by stimulating the myometrium (oxytocic effect). Initiates softening, effacement, and dilation of the cervix ("ripening"). Also stimulates GI smooth muscle.

Therapeutic Effects:
Initiation of labor. Expulsion of fetus.

Pharmacokinetics
Absorption: Rapidly absorbed.
Distribution: Unknown. Action is mostly local.
Metabolism and Excretion: Metabolized by enzymes in lung, kidneys, spleen, and liver tissue.
Half-life: Unknown.

TIME/ACTION PROFILE
ROUTE ONSET PEAK DURATION
Cervical ripening (gel) rapid 30–45 min unknown
Cervical ripening (insert) rapid unknown 12 hr
Abortion time (suppository) 10 min 12–24 hr 2–3 hr

Contraindications/Precautions
Contraindicated in: Hypersensitivity to prostaglandins or additives in the gel or suppository; The gel/insert should be avoided in situations in which prolonged uterine contractions should be avoided, including: Previous cesarean section or uterine surgery, Cephalopelvic disproportion, Transverse delivery or difficult labor, Multiparity (>8 term pregnancies), Hypertensive or hypertensive states, Fetal demise (if delivery is not imminent), Unexplained vaginal bleeding, Placenta previa, Vasa previa, Active herpes genitalis, Obstetric emergency requiring surgical intervention, Situations in which vaginal delivery is contraindicated, Presence of acute pelvic inflammatory disease or ruptured membranes, Concomitant oxytocin therapy (tail for 30 min after init. dose before use), Use during labor in women >35 yr. Use Cautiously in: Uterine scarring; Asthma; Hypotension; Cardiac disease; Adrenal disorders; Anemia; Jaundice; Diabetes mellitus; Epilepsy; Malignancy, Polycythemia, renal, or hepatic disease; Multiparity (age > 5 previous term pregnancies); Women >35 yr, Those with complications during pregnancy, and those with a gestational age >40 wk, (risk of disseminated intravascular coagulation).

Adverse Reactions/Side Effects


Interactions
Drug-Drug: Augments the effects of other oxytocics.

Route/Dosage
Cervical Ripening

Vag (Adults, Cervical): Endocervical gel — 0.5 mg, if response is unfavorable, may repeat in 6 hr (not to exceed 1.5 mg/24 hr), Vaginal suppository — one 10-mg insert.

Aborticant

Vag (Adults): One 20 mg suppository, repeat q 3–5 hr (not to exceed 240 mg total or longer than 48 hr).

NURSING IMPLICATIONS

Assessment

○ Abortion: Monitor frequency, duration, and force of contractions and uterine resting tone. Opioid analgesics may be administered for uterine pain.

○ Cardiac drug name. ○ Genetic Implication. ○ OPTIMO indicates diluting solutions indicate most frequent. ○ Underline = discontinued.
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Monitor temperature, pulse, and BP periodically throughout therapy. Dinoprostone-induced fever (elevation of 1.1°C or 2°F) usually occurs within 15–45 min after insertion of suppository. This return is normal 2–6 hr after discontinuation or removal of suppository from vagina.

Assess for nausea, vomiting, and diarrhea in patients receiving suppository. Nausea and diarrhea occur frequently. Patient should be hydrated with antimetic and antidiarrheal.

Monitor amount and type of vaginal discharge. Notify health care professional immediately if symptoms of hemorrhage (increased bleeding, tachycardia, pallor, tachypnea) occur.

Cervical Ripening: Monitor uterine activity, fetal status, and dilation and effacement of cervix continuously throughout therapy. Assess for hypertonus, sustained uterine contractility, and fetal distress. Insert should be removed at the onset of active labor.

Potential Nursing Diagnoses
Deficient knowledge, related to medication regimen (Patient/Family Teaching)

Implementation
Abortifacient: Warm the suppository to room temperature just before use.

Wear gloves when handling unwrapped suppository to prevent absorption through skin.

Patient should remain supine for 10 min after insertion of suppository; then she may be ambulatory.

Vaginal Insert: Place vaginal insert transversely in the posterior vaginal fornix immediately after removing from foil package. Warming of insert and sterile conditions are not required. Use vaginal insert only with a cervical catheter. Use minimal amount of water-soluble lubricant during insertion, avoid excess because it may hamper release of dinoprostone from insert. Patient should remain supine for 2 hr after insertion, then may ambulate.

Vaginal insert delivers dinoprostone 0.1 mg/hr for 12 hr. Remove insert at the onset of active labor, before amniotomy, or after 12 hr.

Patient should be in dorsal position with cervix visualized using a speculum. Intro- duction of catheter into cervical canal using sterile technique. Adhesive gel is used externally for antiseptic effect from syringe and then removed catheter. Do not attempt to administer small amount of gel remaining in syringe. Use syringes for only 1 patient. Discard, catheter, and unused package contents after using.

Patient should remain supine for 15–30 min after administration to minimize leakage from cervical canal.

Oxytocin may be administered 6–12 hr after desired response from dinoprostone gel. If no cervical/uterine response to initial dose of dinoprostone is obtained, repeated dose may be administered at 6 hr.

Patient/Family Teaching
Abortifacient: Instruct patient to notify health care professional immediately if fever and chills, foul-smelling vaginal discharge or low abdominal pain or increased bleeding occurs.

Provide emotional support throughout therapy.

Cervical Ripening: Instruct patient that she may experience a warm feeling in her vagina during administration.

Advise patient to notify health care professional if contractions become prolonged.

Evaluation/Desired Outcomes
Abortifacient: Complete abortion. Continuous administration for more than 2 days is not usually recommended.

Cervical opening and induction of labor.

Why was this drug prescribed for your patient?