gosperelin (go-se-per-lin)
SGLP Class
Therapeutic: antineoplastics, hormones
Pharmacologic: gonadotropin-releasing hormones

Indications

Action
Acts as a synthetic form of luteinizing hormone–releasing hormone (LHRH, GnRH). Inhibits the production of gonadotropins by the pituitary gland. Initially, levels of luteinizing hormone (LH), follicle-stimulating hormone (FSH), and testosterone increase. Continued administration leads to decreased production of testosterone and estradiol. Thrombotic Effects: Decreased spread of cancer of the prostate or breast. Regression of endometriosis with decreased pain. Thinning of the endometrium.

Pharmacokinetics
Absorption: Well absorbed from subcut implant. Absorption is slower in first 8 days, then is faster and continuous for remainder of 28-day dosing cycle.

Distribution: Unknown.

Metabolism and Excretion: Some metabolism by the liver (10%), some excretion by kidneys (90%, only 20% as unchanged drug).

Half-life: 4.2 hr.

TIME/ACTION PROFILE (in serum testosterone levels)

ROUTE ONSET PEAK DURATION
Subcut unknown 2–4 wk length of therapy

Contraindications/Precautions
Contraindicated in: Hypersensitivity, Endogenous vaginal bleeding. OR, lactation: Pregnancy or lactation.

Use Cautionarily in: Pedi: Safety not established.

Adverse Reactions/Side Effects
CNS: Stroke, headache, anxiety, depression, dizziness, fatigue, insomnia, mood swings, seizures, weakness.
Resp: Dyspnea.
CV: Myocardial infarction, chest pain, hypertension, palpitations.
GI: Anorexia, constipation, diarrhea, nausea, vomiting.
GU: Renal insufficiency, urinary obstruction.
Derm: Sweating, acne, rash.
Endo: Libido, erectile dysfunction, breast swelling, breast tenderness, infertility, ovarian cysts, ovarian hyperstimulation syndrome (with gonadotropins).
F and E: Peripheral edema.
Hemat: Anemia.
Metab: Gout, hyperglycemia, q lipids.
MS: Bone pain, arthralgia, bone density.
Misc: Hot flashes, chills, fever, weight gain.

Interactions
Drug-Drug: None significant.

Route/Dosage
Subcut (Adults): 3.6 mg every 4 wk or 10.8 mg q 12 wk. Endometrial thinning—1 or 2 depots given 4 wk apart; if 1 depot used, surgery is performed at 4 wk; if 2 depots used, surgery is performed 2–4 wk after 2nd depot.

NURSING IMPLICATIONS

Assessment
Cancer: Monitor patients with vertebral metastases for increased back pain and decreased sensory/motor function.
Monitor inpatient and outpatient patients for bladder obstruction in patients with urinary tract obstruction during initiation of therapy.
Endometriosis: Assess patient for signs and symptoms of endometriosis before and periodically during therapy. Anovulation usually occurs within 8 wk of initial administration and menorrhagia usually resolves 9 wk after completion.

Lab Test Considerations: Initially, then 1, 2, 4, and 8 wk. This leads to castration levels of testosterone in men 2–4 wk after initial increase in concentrations.
Monitor serum acid phosphatase and prostate-specific antigen concentrations periodically during therapy. May cause increase in serum acid phosphatase concentrations.

Nursing Considerations: Ovarian cysts, ovarian hyperstimulation syndrome, amenorrhea, myalgia, gynecomastia, increased IGF-1 levels, headache, fatigue, anorexia, nausea, vomiting, abdominal discomfort, myalgia, bone pain, soreness, bone density.

Discontinue.
concentrations, which usually return to baseline by the 4th wk of therapy and may return to baseline or return to baseline if elevated before therapy.

- May cause hypercalcemia in patients with breast or prostate cancer with bone metastases.
- May cause an increase in serum HDL, LDL, and triglycerides.
- May cause hyperglycemia. Monitor blood glucose and HbA1c periodically during therapy.

**Potential Nursing Diagnoses**

**Sexual Dysfunction (Side Effects)**

**Implementation**

- Subcut: Implant is inserted in upper subcut tissue of upper abdominal wall every 28 days. Local anesthesia may be used before injection.
- If the implant needs to be removed for any reason, it can be located by ultrasound.

**Patient/Family Teaching**

- Advise patient that bone pain may increase at initiation of therapy. This will resolve with time. Patient should discuss use of analgesics to control pain with health care professional.
- Advise female patients to notify health care professional if regular menstruation persists.
- Inform diabetic patients of potential for hyperglycemia. Encourage close monitoring of serum glucose.
- Advise patient that medication may cause hot flashes. Notify health care professional if these become bothersome. Hormone replacement therapy may be added to decrease vasomotor symptoms and vaginal dryness without compromising beneficial effect.
- Instruct patient to notify health care professional promptly if difficulty urinating or if symptoms of myocardial infarction or stroke (chest pain, difficulty breathing, weakness, loss of consciousness) occur.
- Advise premenopausal women to notify health care professional if pregnancy is planned or suspected of if breast feeding. Effective contraception should be used during and for 12 wk after treatment ends.
- Emphasize the importance of adhering to the schedule of monthly or every-3-month administration.

**Evaluation/Desired Outcomes**

- Decrease in the spread of prostate cancer.
- Reduction in the symptoms of advanced breast cancer in post- and premenopausal women.
- Decrease in the signs and symptoms of endometriosis. Symptoms are usually reduced within 1 wk of implantation.
- Thinning of the endometrium before endometrial ablation for dysfunctional uterine bleeding.

Why was this drug prescribed for your patient?