Leuprolide Acetate (Lupron®, Lupron Depot®, Eligard®, Prostap®, Viadur®) - For Women

Pronounced: LOO-proe-lide

Classification: Luteinizing Hormone Releasing Hormone (LHRH) Agonist

About Leuprolide Acetate (Lupron®, Lupron Depot®, Eligard®, Prostap®, Viadur®) - For Women

While estrogen and progesterone may not actually cause breast cancer, they are necessary for the cancer to grow in some breast cancers. Estrogen and progesterone are female hormones produced by the ovaries. The production of these hormones can be stopped by surgically removing the ovaries or through medication therapy. A hormone called luteinizing hormone, which is produced by the pituitary gland, stimulates production of estrogen and progesterone by the ovaries. LHRH agonists stop the production of luteinizing hormone by the pituitary gland. This reduces the production of estrogen and progesterone. The cancer cells may then grow more slowly or stop growing altogether. Leuprolide acetate is a type of LHRH agonist. These may also be called gonadotropin-releasing hormone blockers (GnRH blockers).

How to Take Leuprolide Acetate

Leuprolide acetate is given as an injection under the skin, (called subcutaneous or SQ) every 4 weeks. There is also a long acting formulation (called depot), which is given every 3, 4 or 6 months into the muscle (intramuscular, IM). Leuprolide acetate can also be administered as an implant (Viadur) that is inserted under the skin in the upper arm and lasts for 12 months.

Possible Side Effects of Leuprolide Acetate

There are a number of things you can do to manage the side effects of leuprolide acetate. Talk to your care team about these recommendations. They can help you decide what will work best for you. These are some of the most common or important side effects:

**Tumor Flare**

When starting leuprolide acetate, the body has a temporary increase in estrogen levels. This “flare” can lead to a temporary increase in the tumor size, causing symptoms to worsen. Your healthcare team can tell you what to look for in your particular case and what to do about it.

**Hot Flashes**

There are a few things you can do to help with hot flashes. Several medications have been shown to help with symptoms, including clonidine (a blood pressure medication), low doses of certain antidepressants (such as venlafaxine and fluoxetine), and gabapentin. Talk to your healthcare team about these prescription products to determine if they are right for you.

Non-medical recommendations include:

- Keep well-hydrated with eight glasses of water daily.
- Drink ice water or apply an ice pack at the onset of a hot flash.
- Wear cotton or lightweight, breathable fabrics and dress in layers so you can adjust as needed.
- Exercise on a regular basis.
- Try practicing meditation or relaxation exercises to manage stress, which can be a trigger.
• Avoid triggers such as warm rooms, spicy foods, caffeinated beverages, and alcohol.

**Muscle, Back or Joint Pain/Aches**

This medication can be associated with joint or muscle aches and pains. If it is bothersome, it may be treated with medications. Be sure to discuss which pain relievers you can safely take with your oncology team, as these are not without their own side effects. Non-medical therapies, such as acupuncture, yoga, gentle stretching and exercise may also help reduce this side effect.

**Depression**

Leuprolide acetate can cause depression. Contact your care providers if you develop depressive symptoms including irritability, lack of interest in normal activities, insomnia or hypersomnia (sleeping too much), changes in appetite, hopelessness and sadness.

**Injection Site Irritation**

This medication can cause irritation and injury at the site of injection, including pain, bruising, or bleeding. Contact your care provider if you develop abdominal pain, abdominal distension, shortness of breath, dizziness or if you are difficult to arouse.

**Weakening of the Bones (Osteoporosis)**

The lack of estrogen while taking LHRH agonists can lead to a weakening of the bones (osteoporosis). This risk is highest for women with other risk factors. You may be advised to take calcium and vitamin D supplements to help prevent bone loss. Weight bearing exercise and a healthy diet rich in calcium and vitamin D can help protect your bone health. You may have a bone density scan (DEXA scan) to assess your bone health. If your physician determines that you are at high risk of developing osteoporosis, they may recommend additional treatment with a type of medication called a bisphosphonate to help strengthen the bones.

**Fatigue**

Fatigue is very common during cancer treatment and is an overwhelming feeling of exhaustion that is not usually relieved by rest. While on cancer treatment, and for a period after, you may need to adjust your schedule to manage fatigue. Plan times to rest during the day and conserve energy for more important activities. Exercise can help combat fatigue; a simple daily walk with a friend can help. Talk to your healthcare team for helpful tips on dealing with this side effect.

**Vaginal Dryness**

Vaginal dryness and related painful intercourse is one of the more common side effects of cancer therapy in women. Vaginal lubricants and moisturizers (longer lasting form of moisturizers) can help with these concerns. Talk to your healthcare team for more suggestions in managing this side effect.

**Less common, but important side effects can include:**

- **High Blood Sugar and Diabetes:** This medication can cause elevated blood sugar levels in patients with and without diabetes. Your oncology care team will monitor your blood sugar. If you develop increased thirst, urination or hunger, blurry vision, headaches or your breath smells like fruit, notify your healthcare team. Diabetics should monitor their blood sugar closely and report elevations to the healthcare team.

- **Heart Problems, Heart Attack and Stroke:** This medication can increase the risk of stroke and heart attack. If you experience symptoms of these problems, you should contact your healthcare provider immediately or go to an emergency room. Symptoms can include: swelling, redness or pain in an extremity, chest pain or pressure, pain in your arm, back, neck or jaw, shortness of breath, numbness or weakness on one side of the body, trouble talking, confusion or mental status changes. This medication can cause an abnormal heart rhythm called QT prolongation. Notify your healthcare provider if you feel abnormal heartbeats or if you feel dizzy or faint.

- **Seizures:** This medication can increase your risk for seizures, especially in patients with a history of seizures or epilepsy. Be sure your healthcare team is aware of any anti-seizure medications you are taking. Report any seizure activity to your healthcare team immediately.

- **Liver Toxicity:** This medication can cause liver toxicity, which your oncology care team may monitor for using blood tests.
called liver function tests. Notify your healthcare provider if you notice yellowing of the skin or eyes, your urine appears dark or brown, or you have pain in your abdomen, as these can be signs of liver toxicity.

**Sexual and Reproductive Concerns**

This drug will affect your reproductive system, resulting in the menstrual cycle stopping. If your menstrual cycle continues or you experience spotting, you should notify your care provider. Menstruation often resumes after the therapy is stopped. Women may experience menopausal effects, including decreased libido (interest in sex), hot flashes, and vaginal dryness.

Exposure of an unborn child to this medication could cause birth defects, so you should not become pregnant while on this medication. Non-hormonal methods of birth control (condoms, spermicide, diaphragm, Paraguard, IUD) are necessary during treatment and for at least 12 weeks after treatment. You may want to consider egg harvesting if you may wish to have a child in the future. Discuss these options with your oncology team.