Leuprolide acetate, or leuprorelin, is a manufactured drug that has been prescribed as a treatment for endometriosis, a medical condition in which body tissue that typically lines the uterus grows outside of the uterus, since 1989. Leuprorelin is a modified version of a gonadotropin-releasing hormone, a type of hormone that helps regulate the female menstrual cycle. The drug inhibits the production of estrogen, a female sex hormone that enables endometrial gland growth. After two weeks of injections, leuprorelin stops the production of estrogen, and without estrogen, endometrial glands become inactive. That decreases the growth of uterine tissue outside of the uterus, which helps decrease the pain associated with endometriosis. Although physicians commonly prescribe leuprolide acetate in females in 1989 after researchers found that the drug reduced symptoms of endometriosis, the FDA approved leuprorelin to treat prostate cancer in males. Healthcare professionals started administering leuprolide acetate, or leuprorelin, to patients with endometriosis in 1989.
dosages that a patient may receive, including an 11.25 mg injection every three months, or a 3.75 mg injection every month. Leuprolide acetate is usually administered over six months. During the first week of injections, estrogen levels temporarily increase, which may worsen painful symptoms. After estrogen levels begin to decrease, painful symptoms subside. After about two months of injections, menstruation usually stops. Leuprolide may cause menopause-like symptoms, such as bone-thinning and hot flashes due to the decreased production of estrogen. Patients who experience those side effects may also concurrently participate in add-back therapy. During add-back therapy, a patient also takes a daily pill that contains small doses of estrogen or progesterone, which are female reproductive hormones. Low levels of those hormones help control some of the negative side effects of leuprolide like hot flashes and bone-thinning.

There are several studies on the negative side effects of leuprolide injections for women with endometriosis. During clinical trials of the drug, researchers found that most women experienced bone-thinning while receiving injections. Most women in the clinical trials also reported hot flashes, or sudden sweating, and headaches. Furthermore, the Endometriosis Research Center in Delray Beach, Florida, found that half of women surveyed experienced negative side effects that persisted for more than six months, and a fourth of women surveyed experienced side effects that persisted for more than five years. In another study conducted by the Endometriosis Research Center, half of the women surveyed stated that leuprolide injections did not help subside painful symptoms of endometriosis. In several studies with women who did not have endometriosis but did receive leuprolide injections, researchers noted that most women experienced difficulties with memory and coordination.

Despite the negative side effects, as of 2019, physicians commonly prescribe leuprolide injections to patients experiencing pain or infertility associated with endometriosis. Leuprolide injections are also used during fertility treatments like in vitro fertilization. As of 2019, an oral leuprolide drug has entered phase II clinical trials for patients with endometriosis, which means researchers are testing the drug’s short-term side effects and its effectiveness compared to other treatments.

Sources


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Subject
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