

Reproductive Facts

Patient fact sheet developed by the
American Society for Reproductive Medicine



Hyperprolactinemia (High Prolactin Levels)

What is prolactin?

Prolactin is a hormone produced by your pituitary gland, which sits at the bottom of the brain. Prolactin causes a woman's breasts to grow and develop and causes milk to be made after a baby is born. Both men and women have small amounts of prolactin in their blood normally. Prolactin levels are controlled by other hormones called prolactin inhibiting factors (PIFs), such as dopamine. During pregnancy, prolactin levels go up.

After the baby is born, there is a sudden drop in estrogen and progesterone, but prolactin levels can remain high. High prolactin levels can then trigger the body to make milk for breastfeeding.

What is hyperprolactinemia?

Hyperprolactinemia is a condition of too much prolactin in the blood, which is abnormal in people who are not pregnant or just had a baby. Hyperprolactinemia is relatively common in women. About a third of women in their childbearing years with irregular periods and normal ovaries have hyperprolactinemia. When this happens, a woman might have trouble getting pregnant or her breasts may start producing milk outside of pregnancy (galactorrhea). Ninety percent of women with galactorrhea also have hyperprolactinemia. High prolactin levels interfere with the normal production of other hormones, such as estrogen and progesterone. This can change or stop ovulation (the release of an egg from the ovary). It can also lead to irregular or missed periods. Some women may have elevated prolactin levels without any symptoms.

In men, high prolactin levels can cause galactorrhea, erectile dysfunction (inability to achieve and/or sustain an

erection during sex), reduced sexual desire, and infertility. A man with untreated hyperprolactinemia may produce less sperm or no sperm at all.

What are common causes of hyperprolactinemia?

Some common causes are:

- Pituitary tumors that are not cancer (prolactinomas)
- Hypothyroidism (underactive thyroid gland)
- Medicines given for depression, psychosis, and high blood pressure
- Herbs, including fenugreek, fennel seeds, and red clover
- Irritation of the chest wall (from surgical scars, shingles, or even a too-tight bra)
- Stress or exercise (usually excessive or extreme)
- Certain foods
- Nipple stimulation

No cause can be found in about a third of all cases of hyperprolactinemia.

How is hyperprolactinemia tested for?

Blood tests can measure levels of prolactin. The test usually is done after you've fasted and when you are relaxed. Your doctor may also perform a physical exam to find any obvious causes or any breast discharge. If levels are elevated, your doctor may order a magnetic resonance imaging (MRI) scan of the brain to check for a tumor of the pituitary gland.

How is hyperprolactinemia treated?

The treatment depends on the cause. If no cause is found or you have a tumor of the pituitary gland, the usual

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treatment is medication. Hypothyroidism is treated with thyroid replacement medicine, which should also make prolactin levels return to normal. If your regular medicine is the reason for your high prolactin levels, your doctor will work with you to find a different medicine or add one to help your prolactin levels go down.

Medicines used to treat hyperprolactinemia

The most commonly used medicines are cabergoline and bromocriptine. Your doctor will start you on a low dose of one of these medications and slowly increase the dose until your prolactin levels go back to normal. Treatment continues until your symptoms lessen or you get pregnant (if that is your goal). Your doctor may stop treatment once you are pregnant. Lifetime medical treatment is usually not needed and patients can often stop after a period of time, perhaps a year, to see if they continue to have elevated prolactins.

Cabergoline is taken twice a week and has fewer side effects than bromocriptine. Generally, cabergoline drops prolactin levels to normal faster than bromocriptine does. Cabergoline can cause heart valve problems when taken in high doses, but these doses are not used in women or men who are trying to get pregnant.

Bromocriptine and cabergoline can be used when a woman is pregnant. The most common side effects are lightheadedness, nausea, and headache. Slowly

increasing the dose helps with side effects. Another way to decrease the side effects is to give bromocriptine in a suppository directly in the vagina. This is an off-label use of the medicine, meaning it is not FDA-approved for this application.

No treatment

Not all women with hyperprolactinemia need treatment, although women with hyperprolactinemia who do not make estrogen as a result of their high prolactin may need a treatment. No treatment may be needed if a cause can't be found. Women with hyperprolactinemia can still take birth control pills to keep from getting pregnant or to make their periods regular. Men with elevated prolactin levels but preserved sperm quantity and quality additionally do not require treatment.

Surgery

If a pituitary tumor is large, surgery may be needed if medicine doesn't improve symptoms.

Words to Know

- **Galactorrhea:** When individuals who are not pregnant produce breast milk.
- **Hypothyroidism:** Underactive thyroid gland (a gland in neck normally responsible for regulating metabolism).
- **Pituitary gland:** A walnut-sized gland that sits at the bottom of the brain and releases hormones related to reproduction and growth.
- **Prolactin inhibiting factor (PIF):** A hormone or chemical that stops prolactin from being released.

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