



PATIENT FACT SHEET

Hyperprolactinemia (Prolactin Excess)

What is Prolactin?

Prolactin is a hormone produced by your pituitary gland, the gland that sits at the bottom of the brain. Though prolactin plays a role in the growth and development of your breasts, its primary function is in milk production after a child is born. Normally, it is present in small amounts throughout your bloodstream (and in men's), kept under control by another hormone called a prolactin inhibiting factor (dopamine). When you get pregnant, however, prolactin levels increase significantly. Then, after the baby is born, the combination of high prolactin levels and the abrupt drop in estrogen and progesterone occurring after birth enable your body to produce milk for breastfeeding.

What is Hyperprolactinemia?

Hyperprolactinemia is a condition in which too much prolactin is present in the blood of women who are not pregnant and in men. In women, this results in a decline in the body's production of progesterone after ovulation which, in turn, can lead to irregular ovulation and infrequent menstruation, cause you to stop menstruating altogether, or cause your breasts to start producing milk, a condition called galactorrhea.

Men also can experience galactorrhea. High prolactin levels in men can also lead to impotence, reduced libido, and infertility.

Hyperprolactinemia is relatively common. In women of reproductive age who stop menstruating and have low FSH levels, up to a third of women have hyperprolactinemia. Up to 90% of women who have galactorrhea have hyperprolactinemia.

What causes Hyperprolactinemia?

Prolactin levels increase as a result of:

- Certain medications, including commonly prescribed antidepressants, anti-psychotics, and blood pressure medications
- Herbs, including fenugreek, fennel seeds and red clover
- Chest wall irritation (from surgical scars, shingles, or even a too-tight bra)
- Stress
- Certain foods
- Exercise
- Sleep (prolactin levels are highest at night)
- Nipple stimulation
- Hypothyroidism, or underactive thyroid
- Pituitary tumors. These are usually very tiny, but account for about 30% of all cases of hyperprolactinemia.

In about a third of all cases of hyperprolactinemia, no cause is found.

How is Hyperprolactinemia Tested?

If you have absent or irregular periods, produce milk from the breasts, or experience problems getting pregnant, especially if you or your partner have any symptoms of high prolactin production, your doctor may order a blood test to measure blood levels of prolactin. If those levels are high, your doctor generally will conduct a second test while you're fasting and when you aren't stressed.

If levels are still high, your doctor will obtain tests to rule out thyroid and kidney problems. If the thyroid and kidneys are functioning normally, magnetic resonance imaging (MRI) or computed axial tomography (CT scan) can identify any tumor of the pituitary gland that could cause this condition. If the MRI or CT scan reveals a growth, it will be

classified depending on its size. If the growth is small, it is called a microadenoma. If the growth is larger (>1 cm in diameter), then it is called a macroadenoma.

How is Hyperprolactinemia Treated?

The treatment depends on the cause. If your doctor cannot identify a cause or you have a microadenoma or a macroadenoma in the pituitary gland, the primary treatment is with medication. The most commonly used medications are Parlodel® (bromocriptine) and Dostinex® (cabergoline). Your doctor will start you on a low dose and gradually increase the dose until your prolactin levels return to normal. The treatment continues until you get pregnant. Discontinuing the medication once pregnant should be discussed with your physician.

The most common side effects from Parlodel® include lightheadedness, nausea and headache. Other side effects include nasal congestion, dizziness, constipation, abdominal cramps, fatigue, vomiting, and, rarely, neurologic symptoms such as hallucinations. Slowly increasing the dose helps reduce side effects. You can also take Parlodel® as a vaginal suppository or tablet at bedtime (although this is not approved by the FDA), which also helps reduce side effects.

While Dostinex® can be taken twice a week and has significantly fewer side effects, it is much more expensive than Parlodel®. In addition, questions have been raised about heart valve problems being caused by higher doses of Dostinex®. One drug, pergolide, has been voluntarily withdrawn from the U.S. market because of this problem.

It is acceptable to choose not to treat women who have hyperprolactinemia and no identifiable causes or a small pituitary tumor. Similarly, there does not appear to be any risk to using oral contraceptive pills if irregular periods are present or to prevent pregnancy.

Surgery is rarely required, only for large pituitary tumors that don't improve with medical treatment. With larger pituitary tumors, occasional monitoring with an MRI or CT scan should be performed.

If you have hypothyroidism, your doctor will treat it with thyroid replacement medication, which should bring prolactin levels back to normal. If the medication(s) you're taking (is) are responsible for your high prolactin, your doctor will work with you to find other options. In some cases, you may require hormone therapy to bring your estrogen levels back to normal.

Words to Know

Galactorrhea: A condition in which the breasts secrete milk in men or non-pregnant women

Hyperprolactinemia: A condition in which blood levels of prolactin are too high

Hypothyroidism: Underactive thyroid

Macroadenoma: Larger pituitary tumor (measuring >1 cm) that causes release of prolactin

Microadenoma: Smaller pituitary tumor

Pituitary: A walnut-sized gland that sits at the bottom of the brain and releases various hormones related to reproduction and growth

Prolactin: A hormone produced by the pituitary gland that controls milk production and breast growth

Prolactin inhibiting factor (PIF): A hormone that inhibits the release of prolactin; dopamine is believed to be PIF

The American Society for Reproductive Medicine grants permission to photocopy this fact sheet and distribute it to patients.