

Hyperprolactinemia: What You Need to Know

Hyperprolactinemia is a condition in which there are unusually high levels of prolactin in the blood. In this handout, learn the causes and symptoms of hyperprolactinemia. You will also learn how doctors diagnose and treat the condition.

WHAT IS HYPERPROLACTINEMIA?

Hyperprolactinemia is a condition in which there are unusually high **prolactin levels** in one's blood. People who have this condition may also have **prolactinomas** (benign, or harmless, tumors or growths on the pituitary gland).

WHAT DOES PROLACTIN DO?

Prolactin is a hormone that is necessary for breast milk production. It is made in the **pituitary gland** (a small gland at the base of the brain). Additionally, prolactin can affect levels of estrogen and testosterone in the body. Very high prolactin levels lead to low levels of estrogen and testosterone.

WHAT CAUSES HYPERPROLACTINEMIA?

There are many causes of hyperprolactinemia, including:

- Pregnancy and breastfeeding
- Nipple stimulation in breastfeeding or breast exams in females
- Stress
- Certain medications used to treat gastroesophageal reflux disease, nausea/vomiting, depression and other mental health disorders, and hypertension, or for birth control
- Injuries or conditions that affect the chest
- Certain medical conditions, such as a hypothyroidism (overactive thyroid) and chronic renal failure (long-term kidney failure)
- Prolactinomas (pituitary tumors that make prolactin)
- Tumors, diseases and treatments near the pituitary gland and hypothalamus

WHAT ARE THE SYMPTOMS OF HYPERPROLACTINEMIA?

In females:

- Decrease in or loss of periods
- Lowered libido (sex drive)
- Vaginal dryness
- Breast milk secretion
- Breast pain
- Infertility

In males:

- Lower libido
- Impotence (inability to maintain an erection)
- Low sperm count and infertility
- Lower muscle mass
- Anemia (low iron levels in the blood)
- Less body hair
- Enlargement of and pain in the breasts

All sexes:

- Low bone density
- Headaches, nausea, vomiting
- Disturbances in vision
- Decreased production of other hormones made by the pituitary gland if the cause of high prolactin is a large prolactinoma or tumors, diseases or treatments near the pituitary gland and/or hypothalamus

HOW DO DOCTORS DIAGNOSE HYPERPROLACTINEMIA?

Doctors can diagnose hyperprolactinemia with a blood test. If high levels of prolactin are found, doctors will ask about the possibility of pregnancy, lactation, which medications you/your child use and other conditions you/they have.

The doctor may also ask about stress around the time of blood collection. Tests can be done to check for pregnancy, hypothyroidism and kidney disease. Doctors may conduct an MRI of the brain to see if there is a tumor or other condition affecting the pituitary and/or hypothalamus.

HOW DO DOCTORS TREAT HYPERPROLACTINEMIA?

Treatment depends on the cause of your/your child's hyperprolactinemia. Some asymptomatic people with mildly elevated prolactin levels may not need treatment and may be monitored for worsening of symptoms. Sometimes, medications can keep symptoms under control.

- If a prolactinoma is causing hyperprolactinemia, prescription medications (such as bromocriptine and cabergoline), surgery or radiation are possible treatments.
- If the cause is unknown, medications such as bromocriptine and cabergoline can be used for treatment.
- If hypothyroidism is causing the condition, replacement doses of a synthetic thyroid hormone can bring the prolactin levels down.
- If other medications are causing an increase in prolactin levels, the care team can talk with you/your child about different medication options.

WHAT SETS MGHfC APART IN TREATING THIS CONDITION?

Providers at MGHfC are part of a multidisciplinary team of highly skilled pediatric endocrinologists, adult endocrinologists, pituitary neurosurgeons, radiation oncologists, neurologists and psychologists at Massachusetts General Hospital who provide care to people with simple and complex pituitary conditions, including hyperprolactinemia, across the life span. The team's approach to treatment represents the consensus of this multidisciplinary group, particularly when it comes to complex pituitary tumors. The team works closely with one another to provide the highest quality of comprehensive and state-of-the-art care for children and families.

HOW DOES THIS CONDITION DIFFER IN CHILDREN COMPARED TO ADULTS?

Diagnosis can sometimes be delayed in children, particularly prepubertal children (children who have not started puberty yet). Symptoms caused by **suppression of estrogen or testosterone** (delayed or absent release of those hormones) do not happen in prepubertal children. A delayed diagnosis can sometimes mean larger tumors in children than in adults at the time of diagnosis.

Symptoms of estrogen or testosterone suppression include reduced or absent periods and vaginal dryness (in post-pubertal girls and women), impotence (in men), and loss of libido and infertility (in all sexes). These symptoms are not expected in prepubertal children because they naturally have low levels of estrogen and testosterone.

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Pediatric Endocrinology and Diabetes Center

Mass General Hospital for Children
55 Fruit Street, Suite 6C
Boston, MA 02114

www.massgeneralforchildren.org

For more information please call

617-726-2909