



# AMERICAN SOCIETY FOR REPRODUCTIVE MEDICINE

*Formerly The American Fertility Society*

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## PATIENT'S FACT SHEET: PROLACTIN EXCESS

### **PROLACTIN: A MILK-PRODUCING HORMONE**

Prolactin is a hormone secreted by the pituitary gland which is located at the base of the brain. It circulates in low levels in the bloodstream of nonpregnant women. During pregnancy, prolactin levels increase approximately ten-fold and stimulate milk formation. Hyperprolactinemia is a condition in which excess prolactin circulates in the bloodstream of nonpregnant women. Hyperprolactinemia can produce a variety of reproductive dysfunctions including inadequate progesterone production during the luteal phase after ovulation, irregular ovulation and menstruation, absence of menstruation, and galactorrhea (breast milk production by a woman who is not nursing). Prolactin levels should be measured in women who experience these conditions. In men, hyperprolactinemia may be associated with impotence and can affect fertility.

Prolactin secretion may increase mildly with sleep, stress, coitus, exercise, nipple stimulation, ingestion of certain foods, and pregnancy. If a woman's prolactin level is elevated the first time it is tested, a second sample should be checked when she is fasting and non-stressed. Confirmed elevations of prolactin need to be evaluated.

### **CAUSES OF PROLACTIN EXCESS**

A medical history, physical examination, and imaging studies such as magnetic resonance imaging (MRI) or computerized tomography (CT) of the pituitary will identify most causes of prolactin excess. Surgical scars on the chest wall and other chest wall irritations (shingles for example) can trigger excess prolactin secretion. A variety of medications, most notably certain tranquilizers, high blood pressure medications, and anti-nausea drugs can lead to excess prolactin secretion. Oral contraceptives and "recreational drugs" such as marijuana may also result in mild prolactin excess.

Primary hypothyroidism, a condition in which an inadequate amount of thyroid hormone is produced, is the most common medical condition that can cause hyperprolactinemia. Treating the hypothyroidism with thyroid hormone can correct the hyperprolactinemia. Rarely, other medical conditions, such as chronic kidney failure, may be responsible for hyperprolactinemia. Lastly, tumors of the pituitary gland and lesions that compress the hypothalamic-pituitary stalk can cause hyperprolactinemia. These tumors can usually be identified by MRI or CT scans in 30-40 percent of women with hyperprolactinemia. In approximately 30 percent of cases, the hyperprolactinemia is unexplained.

### **TREATMENT OF PROLACTIN EXCESS**

Bromocriptine (Parlodel®) is the main drug used to treat prolactin excess. It works by suppressing prolactin production. The starting dosage is usually 1.25 to 2.5 mg nightly, with the dosage slowly increased until prolactin levels return to the normal range. Larger doses are frequently required to suppress larger pituitary tumors. Ovulation and menstruation generally return within six weeks of normalizing prolactin levels. Galactorrhea takes more time and is less certain to resolve. Treatment is generally continued until pregnancy occurs, at which time bromocriptine is usually discontinued. In the absence of pregnancy, therapy is usually continued for one to two years or longer because of the high rate of symptom recurrence once the medication is discontinued. The effectiveness of bromocriptine in controlling hyperprolactinemia due to pituitary tumors has greatly reduced the need for surgery and radiation to treat these conditions.

The side effects associated with bromocriptine usually resolve within the first month of use. Lightheadedness, nausea, and headache are the most common initial side effects. Other side effects include nasal congestion, dizziness, constipation, abdominal cramps, fatigue, vomiting, and rarely neurologic symptoms such as hallucinations. Side effects are minimized by slowly increasing the dosage to build tolerance. Bromocriptine may also be administered vaginally at bedtime.

Hyperprolactinemia is a common clinical problem. It is found in up to one-third of patients with absence of menstruation and in up to 90 percent of women with galactorrhea. Observation and expectant management is appropriate for some of these women, and medical management is highly successful in others.