Commentary

Clinical Diagnosis and Treatment of Prolactinoma

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DESCRIPTION

Prolactinoma is a benign (noncancerous) pituitary gland tumor that produces the hormone prolactin. The pituitary gland, located at the base of the brain, is a pea-sized gland that regulates the production of many hormones. During pregnancy and breastfeeding, prolactin stimulates the breasts to produce milk. Hyper-prolactinemia, or having too much prolactin in the blood, can lead to infertility and other complications. Prolactinomas and related health issues can usually be successfully addressed with medications.

Prolactin, also known as lactotropin, is a hormone that regulates the growth of mammary glands within breast tissue, as well as milk production during lactation. It also helps with a variety of biological processes and activities. Prolactin is mostly produced and secreted by the pituitary gland, but it can also be produced by central nervous system, immunological system, uterus, and mammary glands. Prolactin levels are often low in those who were designated male at birth, as well as those who are not nursing or pregnant. Hyper-prolactinemia (excess prolactin in the blood), which is usually caused by a prolactinoma, can lead to infertility and other problems.

DIAGNOSIS

The symptoms may lead to a suspicion of a diagnosis. Women are diagnosed earlier than men since a change in a woman's cycles is an early and easily detectable symptom. Some prolactinomas are discovered by chance when testing is performed for another cause.

Blood tests

The initial test for women is a pregnancy test; prolactin levels rise during pregnancy, and an untreated pregnancy can occasionally be mistaken for a prolactinoma. A blood sample can be used to determine the level of prolactin in the blood. A high prolactin level usually indicates the presence of a prolactinoma. There are, however, additional causes of elevated prolactin levels.

Some medications, for example, may induce elevated prolactin levels.

Scans

A Magnetic Resonance Imaging (MRI) or Computed Tomography (CT) scan can reveal the tumor size. Some individuals may benefit from a bone density scan to determine whether they are at risk of bone thinning (osteoporosis), which is a potential hazard.

TREATMENT METHODS

Surgery

Surgery may be an option if medication does not work, is not desired, or if the prolactinoma is huge. Trans-sphenoidal surgery is so named because the surgeon enters the pituitary gland through the sphenoid bone, a small cut above the top front teeth, or from inside a nostril. It is performed under general anesthesia.

Trans-cranial surgery

If the tumor has spread to the brain tissue, this procedure is undertaken. The tumor is extracted through the upper section of the skull.

Imaging

A CT scan may show the mass, but MRI with gadolinium is the preferable imaging modality for hyper-prolactinemia evaluation because it best characterizes the anatomy of the hypothalamic-pituitary area. All patients with malignancies near or squeezing the optic chiasm should undergo rigorous visual field assessment.

Other treatments

Prolactinomas can sometimes cause a decrease in the pituitary gland's production of other hormones. If this is the case, patient may need to take hormone replacement medications. This will be determined by symptoms and the results of blood tests.

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