Acromegaly

Acromegaly is a rare hormonal disorder. It occurs when the pituitary gland produces too much growth hormone (GH). It most commonly affects middle-aged adults. It can result in serious illness and premature death. Once recognized, acromegaly is treatable in most patients. But due to its slow and often seemingly harmless onset, it often is not diagnosed correctly.

SYMPTOMS

- Abnormal growth and soft tissue swelling of the hands and feet.
- When tissue thickens, it may trap nerves. Symptoms are numb and weak hands.
- Changed facial features:
  - Protruding brow and lower jaw.
  - Increased spacing of the teeth.
  - Enlarged lips, nose and tongue.
- Deepening of the voice due to enlarged sinuses and vocal cords.
- Snoring because the tongue gets large.
- Thick, coarse, oily skin.
- Skin tags.
- Too much sweating and skin odor.
- Fatigue and weakness.
- Headaches.
- Vision problems.
- Problems with the menstrual cycle.
- Breast discharge in women and impotence in men.
- Body organs may get large. This can affect the liver, spleen, kidneys and heart.
- Overgrowth of bone and cartilage may lead to arthritis.

Other problems are more likely to occur in those who have acromegaly. These include:

- Diabetes mellitus.
- Hypertension.
- Increased risk of cardiovascular disease.
- Increased risk for polyps of the colon. These can develop into cancer.

When GH-producing tumors occur in childhood, the disease that results is called gigantism rather than acromegaly. Fusion of the growth plates of the long bones occurs after puberty.

- Prolonged exposure to excess GH before the growth plates fuse causes increased growth of the long bones and increased height.
- But excessive GH production in adults does not cause increased height.

CAUSES

- This rare disorder is caused by too much GH made by the pituitary gland. The pituitary is a small gland at the base of the brain. It produces several important hormones to control body functions such as growth and development, reproduction and metabolism.

Pituitary Tumors

- In over 90% of acromegaly patients, the overproduction of GH is caused by a *benign* (non-cancerous) tumor of the pituitary gland. This is called an adenoma. These tumors produce excess GH.

Non-Pituitary Tumors

- In rare cases, acromegaly is caused by tumors of the pancreas, lungs and adrenal glands. These tumors also lead to an excess of GH.

DIAGNOSIS

- If a doctor suspects acromegaly, he/she can measure the GH level in the blood. Other blood tests measuring special hormones in the blood may be helpful. A blood test called a glucose tolerance test may be used to help confirm a diagnosis of acromegaly.
- Imaging techniques, such as computed tomography (CT) scans or magnetic resonance imaging (MRI) scans of the pituitary are used to locate the tumor that causes the GH overproduction.

TREATMENT

The goals of treatment are to:

- Reduce GH production to normal levels.
- Relieve the pressure that the growing pituitary tumor puts on the surrounding brain areas.
- Preserve normal pituitary function.
- Reverse the symptoms of acromegaly.

Currently, treatment options include:

- Surgical removal of the tumor.
- Drug therapy.
- Radiation therapy of the pituitary.

Surgery

- Surgery is a rapid and effective treatment. The surgeon reaches the pituitary through an incision in the nose. With special tools, he/she removes the tumor tissue in a procedure called transsphenoidal surgery. This procedure promptly relieves the pressure on the surrounding brain regions.
- Even when surgery is successful and hormone levels return to normal, patients must be carefully monitored for years. This is to see if the tumor comes back. More commonly, hormone levels may improve, but not return completely to normal. These patients may then require additional treatment, usually with medications.

Drug Therapy

- There are several medications that are used to successfully control this problem. The medicines work in different ways to help control GH production.

Radiation Therapy

- Radiotherapy is used for large invasive tumors and when surgery cannot be done. Even when surgery is successful and hormone levels return to normal, patients must be monitored carefully for years. This is to see if the tumor comes back. More often, hormone levels may improve but not return completely to normal. These patients may then require more treatment, usually with medications.
- No single treatment is effective for all patients. Treatment should be individualized depending on patient characteristics, such as age and tumor size.

OTHER RESOURCES

Pituitary Network Association
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