

## Craniopharyngioma

### *Symptoms and treatments*

*This handout explains a type of brain tumor called a craniopharyngioma. It includes symptoms and how the tumor is treated.*

### What is a craniopharyngioma?

A *craniopharyngioma* is a tumor at the base of the brain. It forms right above the *pituitary* gland. The tumor usually affects the *pituitary stalk*, which connects the pituitary gland with the *hypothalamus*. This is the part of the brain that controls hunger, thirst, and body temperature.

This type of tumor is fairly rare, but it can occur at any age. It is a *benign* (non-cancerous) tumor and does not spread to other parts of the body. Symptoms occur because the tumor puts pressure on the pituitary gland, the brain, and the *optic* (vision) nerve.

There are 2 types of craniopharyngioma:

- An *adamantinomatous craniopharyngioma*
- A *papillary craniopharyngioma*

Your doctor will request a *magnetic resonance imaging* (MRI) scan to help diagnose your tumor. A *computed tomography* (CT) scan may also be done to confirm that you have a tumor.

### What are the symptoms?

Symptoms include:

- Headache.
- Confusion.
- Vomiting.
- Vision changes or even vision loss if the tumor presses on the optic nerve or optic *chiasm* (the area the nerve passes through).
- *Pituitary insufficiency*. This occurs when the tumor affects how the pituitary gland works.



*Make sure to tell your doctor about all of your symptoms.*

- *Diabetes insipidus* (DI) (see our handout on this topic).
- *Adrenal insufficiency*. This is caused by lower levels of *adrenocorticotrophic hormone* (ACTH) in the body. This hormone is produced and secreted by the anterior pituitary gland. When the condition is severe, it can cause death. Symptoms include:
  - *Fatigue* (feeling very tired)
  - Low blood pressure
  - Muscle spasms, weakness, twitching, or convulsions caused by imbalance of *electrolytes* (nutrients in the body)
- *Growth hormone* (GH) *insufficiency*. This is caused by lower levels of GH in the body. Symptoms include:
  - Stunted growth and late puberty (in children)
  - Overall fatigue, loss of muscle mass and tone (in adults)
- *Hypothyroidism*. This is caused by a lower level of *thyroid-stimulating hormone* (TSH) in the body. Symptoms include:
  - Loss of appetite
  - Weight gain
  - Fatigue
  - Confusion or problems with memory
- Higher levels of *prolactin*, a hormone produced by the pituitary gland. This occurs if the pituitary stalk is affected and the brain cannot control hormone production. Symptoms include:
  - Changes in menstrual periods or breast milk production (*galactorrhea*) in women who have not yet gone through menopause.
  - Lower sex hormones, *luteinizing hormone* (LH), and *follicle-stimulating hormone* (FSH). In men, this can lead to a low testosterone level, causing decreased sexual drive and impotence, and sometimes loss of body and facial hair. In women, this can lead to infertility.

## How is the tumor treated?

An *endocrinologist* (a doctor trained to treat hormone imbalances) will work with you and your neurosurgeon to create a long-term care plan. Treatment may involve more than a step.

### Step 1: Surgery

Most times, the first step is surgery to remove the tumor. The placement of the tumor will decide what surgery method can be done.

Most surgeons use one of these methods:

- *Endoscopic transnasal surgery:* This is a *minimally invasive* surgery. A tube (*endoscope*) with a tiny camera and light on the end are inserted through the nostrils. The surgeon uses a long instrument to remove the tumor through the tube.
- *Open craniotomy:* In this surgery, the surgeon cuts an opening in the skull. A section of the skull, called a bone flap, is removed to access the tumor. The bone flap is usually replaced at the end of the surgery with tiny plates and screws.

## **Step 2: Stereotactic Radiation**

Sometimes, only part of the tumor can be removed during surgery. If this occurs, your doctor may suggest *stereotactic radiation*. In this treatment, your doctor will focus a dose of radiation on the tumor. Other tissues in the area receive very little radiation.

The risks of radiation include injury to the optic nerve, and pituitary failure many years after treatment. That is why your doctor will only advise radiation treatment if it is truly needed.

If you have pituitary failure, you must be on hormone replacement therapy for the rest of your life.

### **Questions?**

Your questions are important. Call your doctor or healthcare provider if you have questions or concerns.

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