

Neuronal and Mixed Neuronal-Glial Tumors



Neuronal and mixed neuronal-glial tumors are types of rare tumors that occur in the brain or spinal cord. There are many kinds of these tumors. But a person will have just one tumor of one type. In most cases the tumor is not cancer (benign). This means the tumor doesn't spread to other parts of the body. But a tumor can press on nearby brain tissue and cause problems, such as seizures.

How these kinds of tumors grow

Your brain and spinal cord are also known as your central nervous system (CNS). The CNS has many nerve cells (neurons). It also has other nonneuronal cells, such as glial cells. The neurons send messages around the CNS and the rest of your body. Glial cells carry out many other jobs in your brain.

A tumor is an abnormal growth of cells. Most brain tumors grow in the glial cells or other nonneuronal cells in the CNS. Neuronal tumors are a rare group of brain tumors made of abnormal neurons. Mixed neuronal-glial tumors are a rare group of brain tumors that contain abnormal neuron cells in addition to glial cells. Most neuronal and mixed neuronal-glial tumors tend to grow slowly. At times, the cells may look almost normal.

What causes neuronal and mixed neuronal-glial tumors?

Medical experts don't know what causes these kinds of tumors to grow. Several genetic factors have been associated with these types of tumors. They may also be caused by toxins or an infection.

Symptoms of neuronal and mixed neuronal-glial tumors

Symptoms can vary. They depend on the size of the tumor and where it is in the brain. A tumor that presses on the temporal lobe in the brain may cause problems with speech. A tumor that presses on the cerebellum may cause problems with balance or movement. A brain tumor may also block the normal flow of cerebrospinal fluid (CSF). CSF bathes and cushions the brain and spinal cord. But if too much CSF builds up inside the skull, it can create too much pressure on the brain. This may cause headache, nausea, vomiting, and dizziness. In general, some symptoms of a neuronal or a mixed neuronal-glial tumor may include:

- Seizures (often the first symptom)
- Delayed mental or physical development
- Extreme sleepiness or coma due to increased brain pressure
- Headache
- Nausea and vomiting
- Dizziness and balance problems
- Trouble walking
- Eye problems
- Personality changes or changes in the way you think

Diagnosing neuronal and mixed neuronal-glial tumors

Your healthcare provider will ask about your health history and your symptoms. They may also ask about your family health history. You will have a physical exam, including a neurologic exam. Your healthcare provider will check your coordination and reflexes. You may also need tests, such as:

- MRI scan of your brain and spinal cord
- CT scan
- Biopsy of the tumor tissue to look at it
- Blood and urine tests

You may be referred to a healthcare provider who specializes in diseases of the brain. This may be a neurologist, neurosurgeon, or neuro-oncologist.

Treatment for neuronal and mixed neuronal-glial tumors

Your healthcare team will work with you to create a treatment plan. The standard treatment is to remove the tumor with surgery (called a resection). In many cases this may be the only treatment needed. But total resection of the tumor is not always possible. In some cases you may have radiation therapy and chemotherapy instead. These are choices if the tumor is difficult to remove with surgery.

One type of neuronal tumor grows more quickly. This tumor is known as anaplastic ganglioglioma. It may need more kinds of treatment in addition to surgery. These include chemotherapy and radiation.

You will need follow-up visits with your healthcare team. These will include imaging tests to check if the tumor comes back. Make sure to go to all follow-up appointments.

When to call your healthcare provider

Call your healthcare provider if any of the following occur:

- Nausea and vomiting
- Vertigo or dizziness
- Hearing or vision problems
- Trouble with balance and walking
- Changes in thinking or personality

Call 911

Call 911 if any of the following occur:

- Severe sudden headache
- Seizures

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