



Astrocytoma

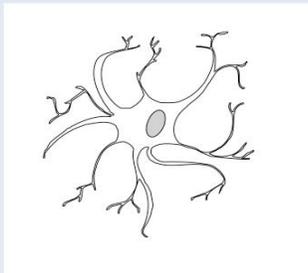
[Home](#) > [Understanding Brain Tumors](#) > [Types of Tumors](#)

Astrocytomas are tumors that arise from astrocytes—star-shaped cells that make up the “glue-like” or supportive tissue of the brain.

These tumors are “graded” on a scale from I to IV based on how normal or abnormal the cells look. There are low-grade astrocytomas and high-grade astrocytomas. Low-grade astrocytomas are usually localized and grow slowly. High-grade astrocytomas grow at a rapid pace and require a different course of treatment. Most astrocytoma tumors in children are low grade. In adults, the majority are high grade.

ASTROCYTE

Astrocytes are the cells that make up the “glue-like” or supportive tissue of the brain.



Below are descriptions of the various grades of these tumors:

Pilocytic Astrocytoma (also called Juvenile Pilocytic Astrocytoma)—These grade I astrocytomas typically stay in the area where they started and do not spread. They are considered the “most benign” (noncancerous) of all the astrocytomas. Two other, less well known grade I astrocytomas are cerebellar astrocytoma and desmoplastic infantile astrocytoma.

Diffuse Astrocytoma (also called Low-Grade or Astrocytoma Grade II) Types: Fibrillary, Gemistocytic, Protoplasmic Astrocytoma—These grade II astrocytomas tend to invade surrounding tissue and grow at a relatively slow pace.

Anaplastic Astrocytoma—An anaplastic astrocytoma is a grade III tumor. These rare tumors require more aggressive treatment than benign pilocytic astrocytoma.

Astrocytoma Grade IV (also called Glioblastoma, previously named “Glioblastoma Multiforme,” “Grade IV Glioblastoma,” and “GBM”)— There are two types of astrocytoma grade IV—primary, or de novo, and secondary. Primary tumors are very aggressive and the most common form of astrocytoma grade IV. The secondary tumors are those which originate as a lower-grade tumor and evolve into a grade IV tumor.

Subependymal Giant Cell Astrocytoma—Subependymal giant cell astrocytomas are ventricular tumors associated with tuberulous sclerosis.

Location

Astrocytomas can appear in various parts of the brain and nervous system, including the cerebellum, the cerebrum, the central

Date visited 5/1/13

areas of the brain, the brainstem, and the spinal cord.

Description

Pilocytic Astrocytomas generally form sacs of fluid (cysts), or may be enclosed within a cyst. Although they are usually slow-growing, these tumors can become very large.

Diffuse Astrocytomas tend to contain microcysts and mucous-like fluid. They are grouped by the appearance and behavior of the cells for which they are named.

Anaplastic Astrocytomas tend to have tentacle-like projections that grow into surrounding tissue, making them difficult to completely remove during surgery.

Astrocytoma Grade IV (glioblastoma) may contain cystic material, calcium deposits, blood vessels, and/or a mixed grade of cells.

Symptoms

Headaches, seizures, memory loss, and changes in behavior are the most common early symptoms of astrocytoma. Other symptoms may occur depending on the size and location of the tumor.

Incidence

Pilocytic astrocytomas are typically seen in children and young adults. The other types tend to occur in males more often than females, and most often in people age 45 and over.

Cause

Like many tumor types, the exact cause of astrocytoma is not known.

Treatment

Treatment options depend on the type, size, and location of the tumor, if and how far it has spread, previous treatment received, and the patient's overall health. Treatment methods for the various types of astrocytomas are briefly explained below.

Pilocytic Astrocytoma: These tumors are often removed by surgery alone. In adults and older children, radiation may follow surgery if the tumor cannot be completely removed. Or, the patient may be watched carefully for signs that the tumor has returned.

Diffuse Astrocytoma: If the tumor is accessible and can be completely removed, the only additional care required is follow-up scans. In adults and older children, radiation may be suggested in addition to surgery. Radiation may also be used to treat an unremovable low-grade astrocytoma. The role of chemotherapy in treating these tumors is being investigated.

Anaplastic Astrocytoma: The first step in treatment of anaplastic astrocytoma is surgery. Radiation is then used to treat the remaining tumor. Chemotherapy may be recommended immediately after radiation or when and if the tumor recurs.

Astrocytoma Grade IV: The first treatment step is surgery to remove as much tumor as possible. Surgery is almost always followed by radiation. Chemotherapy is often given at the same time as radiation and may be used to delay radiation in young children.

Learn more about different treatment options for brain tumors on our [Treatment page](#).

Tumor re-growth can be treated with additional surgery, another form of radiation, a different chemotherapy drug (or combination of drugs), or any number of new approaches to treatment currently in development. These new therapies are offered in organized research studies called clinical trials. [Click here](#) to access TrialConnect®, the ABTA's clinical trial match service.



Date visited 5/1/13



[Low Grade Astrocytoma](#)

Information about low grade astrocytoma.

[Home](#) [Privacy Policy](#) [Login](#)

American Brain Tumor Association
8550 W. Bryn Mawr Ave. Ste 550
Chicago, IL 60631

Phone: 773-577-8750
Fax: 773-577-8738
CareLine: 800-886-2282
E-mail: info@abta.org

© 2013 American Brain Tumor Association