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Glioma

Types

Gliomas are classified into four types.

Astrocytomas

Astrocytomas are the most common glioma. They can occur in most parts of the brain and occasionally in the spinal cord.

Astrocytomas are classified as:

Pilocytic astrocytoma (grade I). These rare tumors are more common in children than adults, and can often be surgically removed. If your surgeon is unable to remove the entire tumor, it may remain inactive or be successfully treated with radiation.

Low-grade astrocytoma (grade II). Grade II tumors are slow-growing tumors that penetrate the surrounding normal brain tissue, making complete surgical removal more difficult. Because these tumors may be very slow growing, your doctor may recommend simple observation, or may consider radiation or chemotherapy or both, after surgery. Most grade II tumors eventually evolve into more-aggressive tumors (grade III or IV), but this process may take many years.

Anaplastic astrocytoma (grade III). Grade III astrocytomas are more aggressive than grade II, but not as rapidly growing as grade IV tumors. Treatment involves removing as much of the tumor as possible, followed by radiation therapy and sometimes chemotherapy.

Glioblastoma (grade IV). Glioblastoma is the most common and aggressive astrocytoma. These tumors tend to infiltrate throughout the area of the brain where the tumor is located, making them more difficult to completely remove surgically. Surgery is generally followed by radiotherapy and chemotherapy. Grade IV tumors tend to recur and are rarely cured.

Ependymoma

Ependymomas begin in cells lining the passageways that contain fluid protecting the brain and spinal cord (cerebrospinal fluid). These rare tumors can be located anywhere in the brain or spine. Surgical removal is typically recommended for low-grade brain and spinal ependymomas. If the cancer cannot be completely removed surgically, radiation therapy is typically used.

Oligodendrogliomas

These tumors begin in cells that support and nourish other cells that transmit nerve impulses (oligodendrocytes). Oligodendrogliomas are normally found in the main part of the brain (cerebrum). Treatment typically consists of surgery to remove the tumor and, depending on grade and other features of the tumor, may be followed by radiation therapy, chemotherapy or both. Tests done on the cancer cells can help determine how sensitive these tumors are to chemotherapy and guide treatment recommendations.

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