

## A Brief Note on Diagnosis and Treatment of Astrocytoma

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### Description

Astrocytoma is a kind of tumour that can arise in the brain or spinal cord. Astrocytoma begins in the astrocytes, which are the cells that support nerve cells.

The signs and symptoms of astrocytoma differ depending on the location of the tumour. Seizures, headaches, and nausea can all be symptoms of astrocytomas in the brain. Astrocytomas in the spinal cord might result in weakness and impairment in the location where the tumour is developing.

Astrocytoma can be either a slow-growing tumour or a fast-spreading cancer. Your prognosis and treatment choices are determined by the aggressiveness (grade) of your astrocytoma.

### Diagnosis

The following tests and techniques are used to diagnose astrocytoma:

**Neurological exam-** Your doctor will inquire about your signs and symptoms during a neurological examination. Your eyesight, hearing, balance, coordination, strength, and reflexes may all be tested. Problems in one or more of these regions might indicate which section of your brain is being impacted by a brain tumour.

**Imaging tests-** Imaging studies can assist your doctor figure out where your brain tumour is and how big it is. Brain tumours are frequently diagnosed with MRI, which may be combined with specialist MRI imaging such as functional MRI, perfusion MRI, and magnetic resonance spectroscopy.

Other imaging examinations include Computed Tomography (CT) and Positron Emission Tomography (PET).

Removing a sample of tissue for testing (biopsy) depending on your condition and the location of your tumour, a needle biopsy can be performed before or after surgery to remove your astrocytoma. A laboratory examines a sample of suspicious tissue to assess the sorts of cells present and their level of aggressiveness.

The sorts of mutations that the tumour cells have acquired can be determined by specialised testing of the tumour cells. This provides your doctor with information about your prognosis and may help to guide your treatment choices.

### Treatment

**Surgery to remove the astrocytoma-** Your neurosurgeon will try to get rid of as much of the astrocytoma as feasible. The objective is to

remove all of the tumour, but because astrocytomas are often found near delicate brain tissue, this is not always possible. Even eliminating portion of the cancer may help you feel better.

Surgery may be the sole therapeutic option for certain patients. Additional treatments may be advised for others to eliminate any cancer cells that remain and lower the chance of recurrence.

**Radiation therapy-** To destroy cancer cells, radiation treatment employs high-energy beams such as X-rays or protons. You lie on a table during radiation therapy as a machine rotates around you, aiming beams to specific spots in your brain.

If your cancer was not entirely eliminated after surgery or if there is a high chance of it returning, radiation therapy may be advised. For aggressive tumours, radiation is frequently coupled with chemotherapy. Radiation therapy and chemotherapy may be used as a main treatment for those who are unable to undergo surgery.

**Chemotherapy-** Chemotherapy is a cancer treatment that involves the use of chemicals to kill cancer cells. Chemotherapy medications are administered through a vein in your arm or as pills. After surgery, a circular wafer of chemotherapeutic drug can be inserted in your brain, where it slowly dissolves and releases the medication in specific circumstances.

Chemotherapy is routinely used after surgery to kill any cancer cells that remain. For aggressive malignancies, it might be coupled with radiation treatment.

**Clinical trials-** Clinical trials are research investigations that look into novel medicines. These trials allow you to attempt the most up-to-date treatment alternatives, but the risk of adverse effects is unknown. Consult your doctor to see whether you are a candidate for a clinical study.

**Supportive (palliative) care-** Palliative care is a type of medical treatment that focuses on relieving pain and other symptoms associated with a severe disease. Palliative care professionals collaborate with you, your family, and your other doctors to add an extra layer of support to your continuing treatment. Palliative care can be used in conjunction with other harsh therapies such surgery, chemotherapy, or radiation.