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Case Report On Brain Tumour (Glioma)

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ABSTRACT:

Introduction:

Gliomas are brain tumours that grow from glial cells. Glial cells supply energy and nutrition to nerve cells while also helping to keep the blood-brain barrier intact. Glioma is a cancer of the brain and spinal cord that affects the brain and spinal cord. Gliomas start in the gluey supporting cells (glial cells), which surround nerve cells and help them operate. A glial cell is a type of supporting cell in the brain. Astrocytes, oligodendrocytes, and ependymal cells are the three primary types of supporting cells in the brain. Astrocytoma, oligodendroglioma, and ependymoma are examples of gliomas. In normal cells, new cells replace old or damaged cells in a controlled manner.

Tumor cells reproduce in an uncontrollable manner for unknown causes.A primary brain tumour is a malignant development th at begins in the brain and seldom spreads to other regions of the body.

Clinical findings: Patient came with the complainant of headache, since 15 days nausea or vomiting, since , since 5 days memory loss.

Main diagnosis, therapeutic interventions, and outcomes: A 55 years old male patients came with complaint of headache, nausea or vomiting, memory loss and after all investigation is done, patient was diagnosed as brain tumour left side query with glioma. Patient were then treated with tab .pan , tab. Dolo, Inj.Dexa, Inj.Cefrezine.

Conclusion: This type of glioblastoma has a better prognosis than other types of gliomas. A large total resection can control seiz ures completely while also preventing recurrence.However, longer followup periods are required to accurately estimate the tim e to recurrence and what additional treatment, such as adjuvant chemotherapy or radiation, is required for this newly discover ed brain tumour.

Keywords: Brain Tumour, Surgical Resection, Nursing Care, Fatigue; Glioma Headache; Mood Alteration; Sleep-Wake Disturbance; Venous Thromboembolism.

Introduction:

The most common type of glial cell tumour in the central nervous system is glioma (CNS). Gliomas are identified six times per 100,000 people in the United States each year. Gliomas are infiltrativ e tumours that impact the surrounding brain tissue in a diffuse manner. Glioblastoma is the most danger

ous type of brain tumour, while pilocytic astrocytomas are the least dangerous. This exercise examines t he pathogenesis of gliomas and emphasises the importance of a multidisciplinary approach to their treat ment.(1) On histological analysis, gliomas are tumour cells that have morphological similarities to mature or developing macroglia. Macrophages include astrocytes, oligodendrocytes, and ependymal cells. The World Health Organization (WHO) classification of central nervous system (CNS) tumours, which will be used in this book, recognises more than 20 types of gliomas and establishes histological criteria for identifying them. The tumours are also assigned to one of four WHO-defined malignancy grades.(2) The level of malignancy that each type of tumour is likely to have is indicated by these classifications.Tumors classified as grade I are the least malignant, while those classified as grade IV are t he most malignant. The most frequent gliomas in children and adolescents have diverse genetic anomali es, which are detailed belowadults.(3) The amount of genetic and molecular knowledge we have about common tumours is growing, yet it is still limited. While genetic and molecular discoveries are not yet routinely used in clinical practise, the availability of efficient molecular targeted medicines will encourage the addition of molecular data to histology data. The majority of brain tumours are sporadic, however a variety of familial cancer syndromes, such as neurofibromatosis type 1 (NF1) and type 2 (NF2), are linked to an elevated risk of brain tumours (NF2). There is no known lesion that acts as a precursor to a brain tumour.(4)

Gliomas are one of the most common types of brain tumours in general. While the specific genesis of gliomas is unknown, they are thought to grow from glial cells or glial precursor cells.In the brain, a glial cell is a sort of supporting cell. Astrocytes, oligodendrocytes, and ependymal cells are the three primary types of supporting cells in the brain .Astrocytoma, oligodendroglioma, and ependymoma are three types of gliomas.Gliomas are given a grad e that indicates how dangerous the tumour is expected to be. A higher grade is usually more aggressive and has a higher proclivity for rapid growth. Current research, on the other hand, is supporting physicians in better classifying gliomas using tumour genetics. Later in this session, we'll go over this in further depth. Angiogeneticglioma is a newly identified brain tumor1 that was originally reported in 2005 in two case reports. The World Health Organization's Classification of Tumours of the Central Nervous System classified it in 2007.In the literature, only seven more cases have been described. after its initial description. This tumo ur has distinct clinical, radiological, and histological characteristics that set it apart from other juvenile br ain tumours, particularly in terms of prognosis and quality of life.Angiogeneticglioma is a slowgrowing tu mour that primarily affects the supratentorial region.On radiographs, this lesion looks extremely like a lo w-grade glioma.
Seizures are typically the first sign of a problem.In many ways, this organism resembles an ependymoma in that it is made up of cytologically bland, monomorphic spindle cells with a diffusely infiltrative and un ique perivascular growth pattern.

Patient specific information:

A 55 years old patient from Amravati admitted to surgery ward , AVBRH with the complaint of nausea and vomiting since 5 days, seizure, headache since 15 days. personality changes noted in the patient.

vision change is present after eye examination it is come to know patient diagnosed with myopia. After all necessary investigation i.e. left sided cerebral oedema, mucosal thickening in bilateral axillary sinus, and she diagnosed Brain glioma.

Primary concern and symptoms of the patient:

A 55 years old patient was visited to surgery department on dated 01/06/2021 with the chief complaints of headache since 15 day's, nausea or vomiting, seizure from last 1-2 years, memory loss.

Medical, family and psychosocial history:

Patient has no any previous history of chronic obstruction pulmonary disease and hypertension. Patient has previous history of seizures and memory loss. There are 6 family members are in her family. There is no any abnormal psycho- social history present in the family. They have no any health issues except the patient who is admitted for further treatment.

Clinical findings:-

State of health: unhealthy ,State of consciousness: conscious ,Body built: obese, Hygiene: Good, General Parameter: Height: 158 cm, Weight: 46 kg ,Vital parameter: Blood pressure: 110/70 mmHg, Temperature: Afebrile 38.8oC,Pulse: 88 beats/min. Respiration: 26 breath/ min.,SpO2: 87% on 10L/min O2

Diagnostics assessment:

Based on the patient's medical records, physical examination, systemic examination, MRI, CT scan, and other examinations, various outcomes are disclosed. CT (computed tomography) and MRI (magnetic resonance imaging) (CT or CAT scan) are two imaging techniques (MRI). Other MRI sequences can assist the surgeon in planning the tumor's removal depending on the location of the brain's normal nerve networks. During surgery, intraoperative MRI is also utilised to guide the removal of tumours and tissue samples. The MRI of my patient reveals a huge heterogeneous mass on the left side. The abnormalities in the brain are also visible on a CT scan. After all, the investigation findings suggest that the patient has a brain tumour called a glioma.

CBC investigation:

- Hb.9.9 g/dL, WBC 8400K/µL, platelets 1.75/µNeutrophils 65%, and lymphocytes 30%.

Therapeutic investigation:

Medical management:-

• The patient was next administered 1 gramme of inj.cefrezine with a BD frequency, Tab.pantaprozofe 40mg, OD frequency,Tab.Levipril, 500 mg, BD frequency, Tab. Dolo, 650mg dose, TDS f requency,Dexa injection, 4mg, BD frequency, Felicitate Capsules, 1TAB, Solymedrole 16 mg tablet, frequ ency TDS, Syp. Glycerol, 30ml dose, TDS frequency

Nursing management: Nursing intervention Nursing care before and after surgery

• Providing assistance to parents and caregivers

• Consistent monitoring for increasing intracranial pressure following surgery

• Keep an eye on your fluid and electrolyte levels.

• Steroids, for example, should be administered.

• Carefully assess the patient's condition.

• Vital signs must be thoroughly examined.

• maintaining optimal SpO2 monitoring

Discussion: Gliomas are brain tumours associated with three types of glial cells in the brain: astrocytes, oligodendrocytes, and ependymal cells. Glial cells, unlike neurons, are situated in the brain's supporting tissue and do not carry electrical impulses. If left untreated, any type of glioma can grow and push on other parts of the brain. Pressure on the brain is dangerous because it forces the brain against the skull, causing damage and impairing its capacity to operate correctly. If left untreated, this diminished function can result in long-term brain damage or death. Glioma is a type of brain tumour that is quite common. Gliomas are tumours that develop in the glial cells that surround and support neurons in the brain, such as astrocytes, oligodendrocytes, and ependymal cells. They account for roughly 33% of all brain cancers. The most common type of glioma is a glioma. Adult primary brain tumours account for around 50-60% of all primary brain tumours.(5)They are associated with high morbidity and mortality, as well as a high rate of recurrence.(6)

Gliomas are thought to develop from mature glial or neural stem cells (NSCs) and invade surrounding tissues, making surgical removal challenging. (7)
Glioma survival is determined by the severity of the cancer. (8) The World Health Organization divided glioma into four classes (I, II, III, and IV) in 2007 based on morphological traits, proliferation behaviour, and genetic changes. (9) Grade IV glioblastoma (GBM) is the most lethal, with a 5-year survival rate of fewer than 10% due to the difficulties of full resection and low radiation and chemotherapy sensitivity. (10)

Glioma patients demand a lot of nursing care after a glioma procedure. Seizures and fever are the most prevalent post-operative complications due to cerebral oedema. (11)

On a daily basis, nurses should keep track of fluid input and outflow volume to maintain a healthy balance.(12) It's critical to keep track of your mental health because postoperative brain edema might be severe and cause consciousness disorder or coma (13). Studies on different brain lesions and their management were reviewed(14-19).

Conclusion:

Brain cancer treatment is one of the most demanding challenges in neurosurgery and oncology. Limited tumour cell drug uptake, intracellular drug metabolism, intrinsic tumour sensitivity to chemotherapy, and cellular mechanisms of resistance are all factors in the poor outcomes of brain cancer treatments. Patients with glioma require a multidisciplinary approach to treatment. Neurosurgeons, neuro-oncologists, radiation oncologists, and other health care providers will all have a role in improving patient care and achieving the best possible outcome. Palliative care should begin as soon as a patient is diagnosed, with continued thoughtful and sympathetic discussions about goals of care and wishes throughout the course of treatment. To achieve the ultimate goal of sustaining the patient's quality of life for as long as feasible, honest discussions about prognosis and careful symptom control are required. New technologies are also being developed to improve the molecular characterisation and tracking of brain cancer cells, which could help us better detect the disease and target treatments. On the horizon are new imaging technologies that could aid in the discovery and observation of biomarkers linked to tumour formation and metabolism. This type of instrument would be tremendously beneficial because it would allow us to quickly determine whether a treatment is effective.

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