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Case Report

A Rare Case of Anaplastic Astrocytoma

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ABSTRACT

Introduction: In adult's glioblastoma is the most common malignant tumor i.e., abnormal growth of brain cells and tissues. Slightly it is more common in men than females. Standard and quality of care and advanced treatment make a positive impact on patients' quality of life. Glioblastoma can be cured due to radiation and chemotherapy treatment often takes a heavy toll.

Case presentation: Here we are reporting about a 45 -years-old male who is admitted to Acharya Vinoba Bhave Rural Hospital. With the complaints of headache, for 1 year, history of seizure 2 episodes 3 months before then patient is on antiepileptic medication. Altered mental status, but the patient was conscious. By radiological investigation, it was revealed that there was a right occipital region glioma tradition necrosis was present. In his family, there was no history of hypertension, diabetes mellitus. On physical examination s1 and s2 sounds were present and it was normal. The tumor was invading the parenchyma of the right transverse sinus. Dura opened in a cruciate manner and the tumor decompresses internally which was vascular and suckable tumor base interface found. Then patient underwent malignant glioma excision i.e., gross total resection of the tumor was done under general anesthesia. After that he managed with antibiotics, analgesics, antiepileptic, anti-edema, now the patient was neurologically stable and he was shifted toward. His histopathology report shows anaplastic astrocytoma. Now patient was in stable condition. Hence being discharged with follow-up after 15 days in Neuro OPD.

Conclusion: Glioma is a brain tumor that affects the human body. There is a poor prognosis of this disease and survival time, therapy is limited. But early diagnosis and treatment patients can spend quality of life.

Keywords: Glioma; Malignant; Brain tumor; Treatment

INTRODUCTION

Glioma is a brain tumor i.e.; abnormal and uncontrollable growth of brain cells and tissues and it is one of the most therapeutic challenges in neuro-oncology. There is a less survival rate. Temozolomide was introduced as a standard therapy regimen, back in 2005. Selection of better treatment modalities based on the genomics of each particular tumor is needed [1,2].

Most of the primary brain tumors are located in the supratentorial region of the brain, and it is not common to see tumor growth on deep brain structures such as the posterior corpus callosum. Sometimes brain lesions and tumors are so difficult to identify and diagnose because of the construction of visuospatial perception, attentional capacity impairment, apraxia, and maybe the only presenting symptoms [3-5]

In adult's intracranial lesions are mostly caused by bacterial or viral infection. It can be shown elsewhere in the body or signs and symptoms of systemic infection are present to make a final diagnosis. Imaging studies i.e., computed tomography and magnetic resonance imaging may not provide sufficient evidence to diagnose the disease [6-8].

Primary brain glioma should be included in the differential of patients who present with either single or multifocal brain masses, even though they typically present as a single brain mass. A brain biopsy histopathology reports are imperative for early diagnosis. According to the World health organization, an anaplastic astrocytoma is a Grade III brain glioma that is malignant [9-11].

Case history

A medical case was taken by Acharya Vinoba Bhave Rural Hospital, Datta Meghe Institute of Medical Sciences, (Deemed to be

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University), Sawangi (Meghe), Wardha, Maharashtra, India. This complicated neurology case was taken care of nicely by the hospital because of expert conservative management by neurosurgeons and quality nursing care.

Patient information

A 45-year-old man admitted to Acharya vinoba Bhave rural hospital, presented with complaints of headache, for 1 year, history of seizure 2 episodes 3 months before then patient is on antiepileptic medication. On admission altered mental status, but the patient was conscious.

An initial computed tomography and magnetic resonance imaging scan of his brain showed by radiological investigation it was revealed that there was a right occipital region glioma tradition necrosis was present. In his family, there was no history of hypertension, diabetes mellitus, or neurological disorder. On physical examination s_1 and s_2 sounds were present and it was normal. Tumour was invading the parenchyma of the right transverse sinus. Dura opened in a cruciate manner and the tumor decompresses internally which was vascular and suckable tumor base interface found.

Diagnostic Evaluation: Blood test Hb-11.3 gram %, Total Red blood cell count- 5.06 million/cumm, Hematocrit- 44.5, Total White blood cells count- 14,800 per microliter, platelets count-3.49, creatinine-0.87, potassium- 4.2, sodium-140, urea-34, Albumin- 4.9, Alkaline phosphatase -251, ALT- 20, AST- 30, Total bilirubin- 1.00, bilirubin conjugated- 0.35, bilirubin unconjugated- 0.65, globulin serum-3.20, protein serum-8.1, HBcAg- nonreactive, HCV nonreactive. RBS-Glucose-Plasma Random.

Computed tomography: In computed tomography, it was found that there was a right occipital region glioma tradition necrosis was present

Therapeutic intervention: Hemoglobin was raised by blood transfusion, Inj.Linsol 50 ml QID, Inj. Ceftriaxone 1gm IV BD, Inj. Amikacin 500 mg BD, Inj. Pantoprazole 40 mg Intravenously BD, Inj. Neomol 100 ml TDS, Inj. Levenue 1gm stat F/B 500 mg BD.

Surgical management: After written informed consent, the patient underwent malignant glioma excision i.e., gross total resection of the tumor was done under general anesthesia. After that he managed with antibiotics, analgesics, antiepileptic, and anti-edema, patient was nil by mouth, started normal saline as doctors ordered. Now patient was neurologically stable and he was shifted toward. His histopathology report shows anaplastic astrocytoma. Now patient was in stable condition. Hence being discharged with follow-up after 15 days in Neuro OPD.

Prognosis

The presence of the 1p19q deletion and IDH132 mutation predicts a good prognosis of the disease. The patient reported in this case report had a poor prognosis of the disease. Overall, approximately 50 percent, anaplastic astrocytoma has a survival rate. This is significantly greater than that for glioblastoma.

DISCUSSION

Gliomas develop when genetic mutations aggregate in the glial stem or progenitor cells, causing them to grow out of control. Tumor suppression, DNA repair, and cell growth regulation are among tasks that are affected by mutated genes. To keep a record of your health status, you'll need to see your doctor regularly. You may be limited in your activities depending on the extent and severity of the disease. To prevent future infection, your healthcare professional may recommend that you take treatment for a long time [12-14].

In adults' anaplastic astrocytoma is the most common malignant brain tumor, but in the child age group, it has less common occurrence. This can spread in a wide variety of locations of the brain. Extracranial glioma metastasis occurs in only about 0.4–2.0 percent. Metastasis of disease mostly occurs in the pleura and lungs (60%), bone (31%), and liver (22%) regional lymph nodes (51%) Glioma with subcutaneous metastasis is very rare and sometimes it cannot be diagnosed. Brainstem gliomas have an incidence rate of 1.4% of intracranial tumors in the child age group and comprise 28.7% of posterior fossa tumors in the child age group. The exact incidence of brainstem glioma is not known due to low biopsy of tissue and resection rates of these lesions [15-17].

Radiological neuroimaging investigations are an indispensable tool in the diagnosis of intracranial lesions of the brain, size, shape, and severity of tumor is based on the epidemiological characteristics, lesion location, and contrast enhancement patterns, but when there is an unusual lesion, the diagnosis becomes a very challenge and it is difficult to diagnose. Pre-treatment differential diagnosis between glioblastoma. Magnetic resonance imaging and computed tomography are the main radiological preoperative examination for brain tumors, is highly recommended as the good sensitivity in lesion detection. Before the operation, accurate diagnosis is still challenging due to the reason that both tumors present similar characteristics on conventional magnetic resonance imaging images which are [18,19].

The term "brain surgery" refers to a wide range of medical operations necessary to correct structural problems with the brain. There are several different kinds of brain surgery. The type of treatment depends on the brain area and the condition being treated. Surgeons can now operate on parts of the brain without making a single incision in or near the head because of advances in medical technology [20].

Brain surgery is a critical and complicated process. The type of brain surgery done depends highly on the condition being treated. For example, a brain aneurysm can be repaired using a catheter that's introduced into an artery in the groin. If the aneurysm has ruptured, an open surgery called craniotomy may be used. Surgeons, while being as careful and thorough as possible, treat each surgery on a case-by-case basis. The most frequent type of glioma tumor that can develop in the brain and spinal cord is astrocytoma. It's more common in men than in women, and it usually appears after the age of 45. There are various forms of astrocytoma, each of which grows at a different rate [20].

A typical first step is surgery to remove the entire tumor or as much of it as possible. Gliomas in places where surgery is too harmful are an exception. Grade 1 tumors may be cured with surgery alone. A higher-grade tumor is rarely completely removed during surgery. If sections of a tumor couldn't be removed or surgeons weren't confident, they got all of cancer, radiation is often used. Glioblastoma and anaplastic astrocytoma are both treated with chemotherapy. It can be used before or following radiotherapy. Chemotherapy wafers may be placed during surgery in some situations. Targeted therapy is a more recent treatment option that can help decrease tumors. In contrast to chemotherapy, this treatment targets specific proteins that aid tumor growth [20].

CONCLUSION

Here we present a case of brain tumor glioma anaplastic astrocytoma with the past and present medical history of the patient. The disease was rapidly progressive, so all the treatments were started as early as possible by the physician and neurosurgeon. After undergoing malignant glioma excision i.e., gross total resection of tumor and radiation therapy and chemotherapy, the patient's current disease prognosis is fair and the patient is in follow-up. Here we suggested that screening, early diagnosis, and treatment helps to prevent the prevalence rate and onset of disease. Awareness regarding risk factors and health information helps to prevent the disease. And it is essential to reduce morbidity and mortality.

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ETHICAL APPROVAL

Not applicable

PATIENT INFORM CONSENT

While preparing the case report for publication patient's informed consent has been taken.

CONFLICT OF INTEREST

The Author declares that there are no conflicts of interest.

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