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Case Report
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GLIOBLASTOMA MULTIFORME: A CASE REPORT

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ABSTRACT

Glioblastoma multiforme is a WHO grade IV astrocytic tumour and is the most aggressive cancer. My case study is a 61 year old female presented with headache for the past 6 months with increased severity for the past one week. Her MRI Brain findings was , mass effect noted n the form of effacement of right ventricle, which was abutting and displacing right M2 and M3 segments of MCA and partly extending into peri mesenchephalic cisterns.The tumour tissue was excised and sent for HPE which showed neoplasm composed of round to oval cells with dark staining pleomorphic, hyperchromatic nuclei with mitotic figures with microcystic degeneration, areas of necrosis surrounded by tumor cells.

KEYWORDS: Glioblastoma multiforme, grade 4 WHO, necrosis.

INTRODUCTION

Glioblastoma, also known as glioblastoma multiforme (GBM), (WHO grade IV astrocytic tumour) is the most aggressive cancer that begins within the brain.[1] Glioblastomas represent 15% of brain tumors.[2] They can either start from normal brain cells or develop from an already existing low-grade astrocytoma.[3] The diagnosis is typically made by a combination of CT scan, MRI scan, and tissue biopsy.[2]. GBMs usually form in the cerebral white matter, grow quickly, and can become very large before producing symptoms. Less than 10% form more slowly following degeneration of low-grade astrocytoma or anaplastic astrocytoma. The tumor may extend into the meninges or ventricular wall, leading to high protein content in the cerebrospinal fluid (CSF) (> 100 mg/dL), as well as an occasional pleocytosis of 10 to 100 cells, mostly lymphocytes.

CASE REPORT

A 61 year old female presented with headache for the past 6 months with increased severity for the past one week. She also gave history of dizziness and few episodes of vomiting. Patient was not a known case of Diabetes mellitus/ Hypertension/any other chronic illness. Her MRI Brain findings was , mass effect noted n the form of effacement of right ventricle , dilatation of controlateral left ventricle. The mass lesion is also abutting and displacing right M2 and M3 segments of MCA and partly extending into perimesenchephalic cisterns. The findings are most ikely neoplastic etiology - likely glioma. The tumour tissue was excised and sent for HPE.

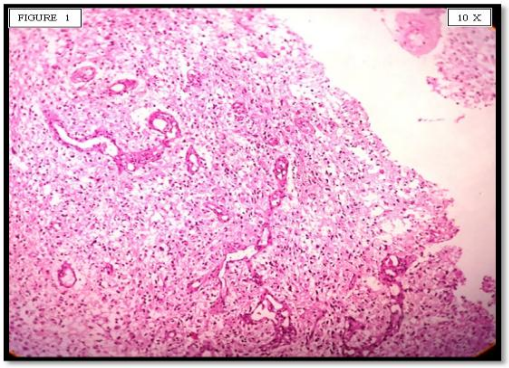

Figure 1: shows tumor cells and proliferating capillaries.

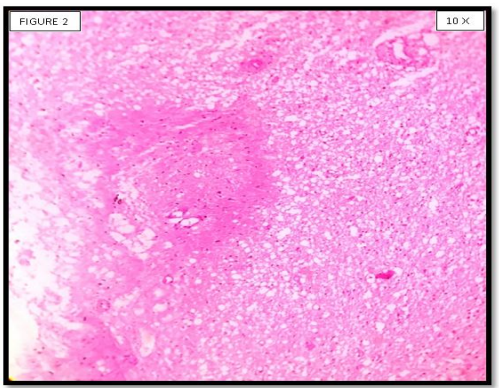

Figure 2: shows areas of microcystic degeneration and areas of necrosis.

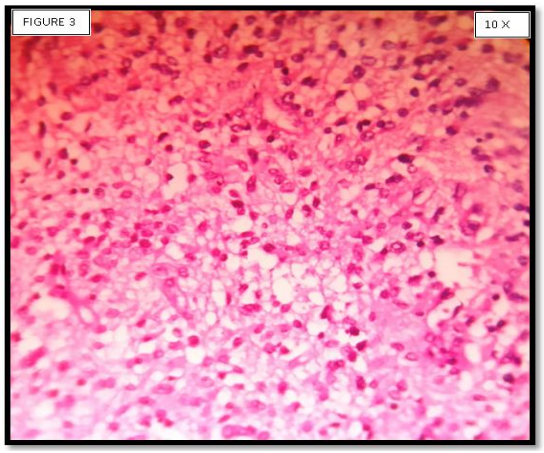

Figure 3: shows round to oval cells with dark staining pleomorphic nuclei.

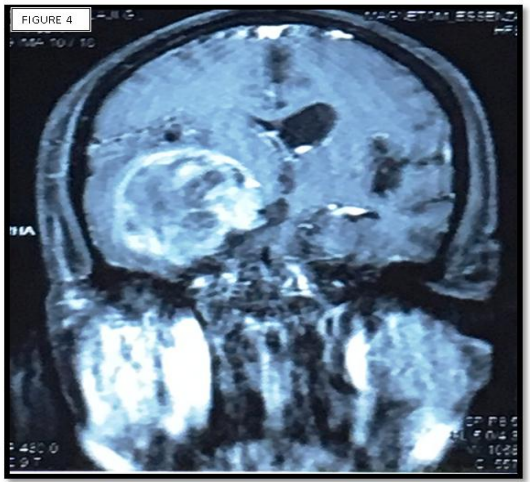

Figure 4: shows MRI shoeing tumor in the right ventricle.

DISCUSSION

Glioblastoma is the highest grade glioma (grade IV) tumor, is the most malignant form of astrocytoma, and is synonymous with a grade IV glioma. The histologic features that distinguish glioblastoma from all other grades are the presence of necrosis (dead cells) and increase of abnormal growth of blood vessels around the tumor. Grade IV tumors are always rapidly growing and highly malignant tumors. Our case showed neoplasm composed of round to oval cells with dark staining pleomorphic, hyperchromatic nuclei with mitotic figures admixed with gemistocytes and proliferating capillaried in a fibrillary background. it also showed microcystic degeneration, tumor giant cells, areas of necrosis surrounded by tumor cells thus confirming the diagnosis.

In this new era, 2016 World Health Organization classification has incorporated molecular information into diagnoses in the past. Diagnosis of central nervous system (CNS) tumor diagnoses is made by both identifying and characterizing the physical appearance and growth rate as well as genetic features. The use of "integrated" phenotypic and genotypic parameters for CNS tumor classification adds a level of objectivity and narrowly defined diagnostic entities than in prior classifications, which in turn should lead to greater diagnostic accuracy as well as improved patient management and more accurate determinations of prognosis and treatment response.[4]

CONCLUSION

The most common age group for Glioblastoma multiforme is 45 to 70 yrs and the case studied falls under this age group. The patient was diagnosed in a short span after the onset of the symptoms. Though these tumours occur mostly in adults, no age is immune. There is a slight male predominance. The 5 year survival rate is nearly 5 % in Glioblastoma. The prognosis is good in younger age groups, in cerebellar location and in cases with maximal tumour resection.

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