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A Rare Case of Brain Gliosarcoma in a Paediatric Age Group: A Case Report

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Abstract: ***Gliosarcoma, a variant of glioblastomais a rare primary malignant neoplasm of the central nervous system. It characteristically displays bimorphichistopathological architecture consisting of both gliomatous (WHO grade 4) and sarcomatous components.They share genetic, clinical, and prognostic similarities with GBM. Hence, it is not unusual that they are treated in a fashion similar to the GBM[4,5].We report a rare case of paediatric age patient having right side temporal region tumor excised after proper pre-operative work up and post operatively patient have been counselled to undergo chemotherapy and radiotherapy.***

Keywords: gliobastoma variant, paediatric age, gliosarcoma, chemotherapy, survival

1. Introduction

Primary malignant cns tumor account for 25% of cns tumors.Gliosarcoma is a rare variant of glioblastomamultiforme. This tumor was first reported by Strobe in 1895. But it was Feigen and Gross (1955) who first described these tumors in details [1,2] It is characterized by biphasic tissue pattern with glial and sarcomatous component[1,2,3,4]. The glial portion consist of astrocytes with nuclear atypia and mitotic figures. The sarcomatousportion consist of neoplastic mesenchymal cells with associated reticulin formation[7].These cells are spindle shaped and demonstrate nuclear atypia, increased mitotic activity and necrosis.

2. Case Report

A 16 year old healthy boy came to our opd in good general condition with history of right temporal hemicranial region headache since one month. He was fully conscious, oriented to time, place and person. He was vitally stable. Neurology was normal and fundus examination of both eyes was normal. Mri brain s/o a well circumscribed hypertense lesion of size approximately43mm*33mm*26mm in right temporal region.

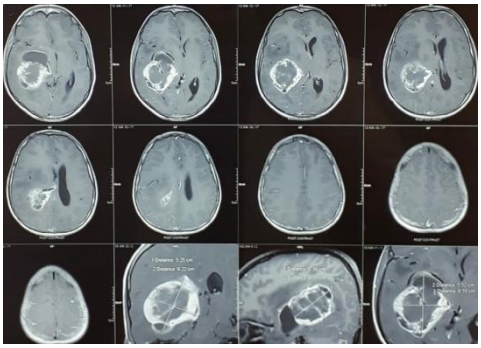

Figure 1: Gliosarcoma preoperative MRI

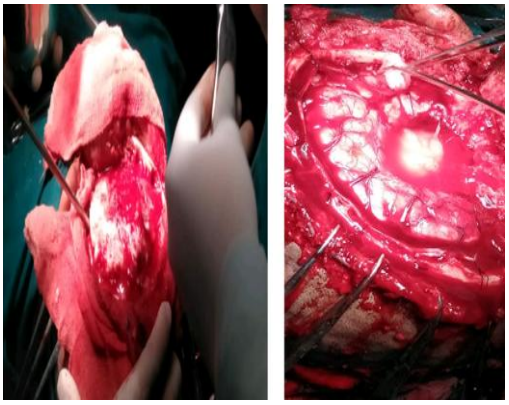

Figure 2: Intraoperative photograph

After proper necessary pre-operative work up surgery was planned. Right temporo- parietal craniectomy and excision of tumor was done. Procedure was uneventfull. Post-operative patient recovered well without any neurological defecit.

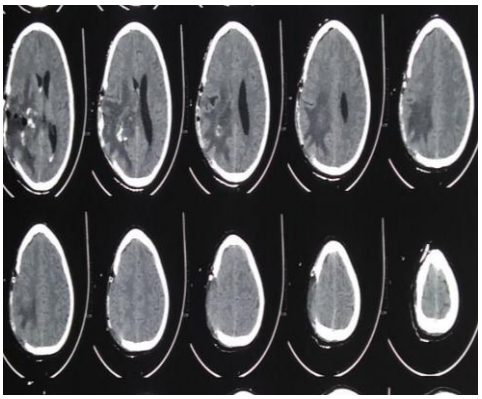

Figure 3: Postoperative CT scan

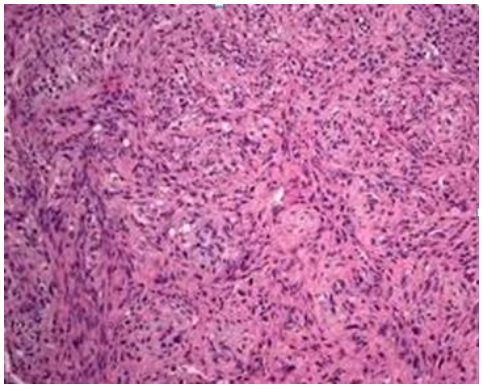

Figure 4: Histopathology

3. Discussion

Gliosarcomais a rare variant of glioblastoma in pediatric age group. These tumor are having biphasic pattern in form of both glial and sarcomatous component. Males are more affected as compared to female[6]. If the proper surgery is planned these patients usually have no neurological defecit. Post-operative when the wound get healed radiotherapy and chemotherapy are adviced.

4. Conclusion

Gliosarcoma is one of the rare variant and represent 2 to 8% of glioblastoma. Commonly the age group affected are of about 40 to 60 years. Male to female ratio is 1.8:1. Gliosarcoma is having poorer prognosis as compared to glioblastoma. Post-operative radiotherapy and chemotherapy are advice to increase the mean survival of these patients. The median survival of these patients is 6 to 14 months[8, 9,10]. Radiotherapy increase survival from 8 to 15 weeks. While chemotherapy increase survival of these patients from 12 to 24 months. Maximal safe resection followed by radiotherapy and chemotherapy appears to be the best current treatment for these tumors. The drug of choice for chemotherapy is temozolomide.

Figure 4: Postoperative photograph

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