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Rare case of Coexisting Meningioma and Glioma in Same Patient: A Case Report

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Abstract Coexsiting different pathology brain neoplasm are quite rare in neurosurgery. However occasionally we come across such cases. This case is a female presenting with seizures and headache. Imaging revealed falcine meningioma and left frontal glioma. Single surgery for both lesions was unique and later histopathology confirmed the lesions. Postoperative period was uneventful. Patient was referred to radiotherapy for glioma. Patient is being followed up in OPD and is doing well.

Keywords: *coexistent meningioma and glioma*

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1. Introduction

Coexisting brain tumors of different pathologies in same patient is a rare entity. Meningiomas and gliomas are known to coexist but are seen less frequently [1]. Treatment again gives a challenge. Which tumour to be tackled first. Some will go for separate surgeries for the two lesions if location is quite far. Some centres keep the patient under follow up and reserve surgery if lesion becomes symptomatic and sizeable [5]. Others will go simultaneous if both lesions can be removed in the same sitting if location being close by. We here with present one such case of coexisting glioma and meningioma in same patient [2].

2. Patient and Method

Our patient is a 50 year old female who presented in our hospital with history of seizures and headache. After initial control of seizures patient was thoroughly examinaed and no gross neurological deficit was seen. Patient underwent CT brain which revealed falcine lesion enhancing brightly with contrast with surrounding pressure effects. Patient underwent MRI brain which revealed falcine meingioma and left frontal lesion which was hypointense on T1 weighted images and bright on T2 with no gross contrast enhancement going with either perilesional oedema or a low grade glioma. But as was unilateral on right side hence lesion was most likely pathology [6].

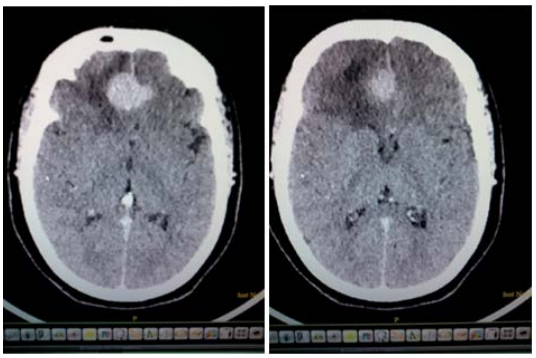

Figure 1. Preoperative CT brain of the patient showing the two lesions

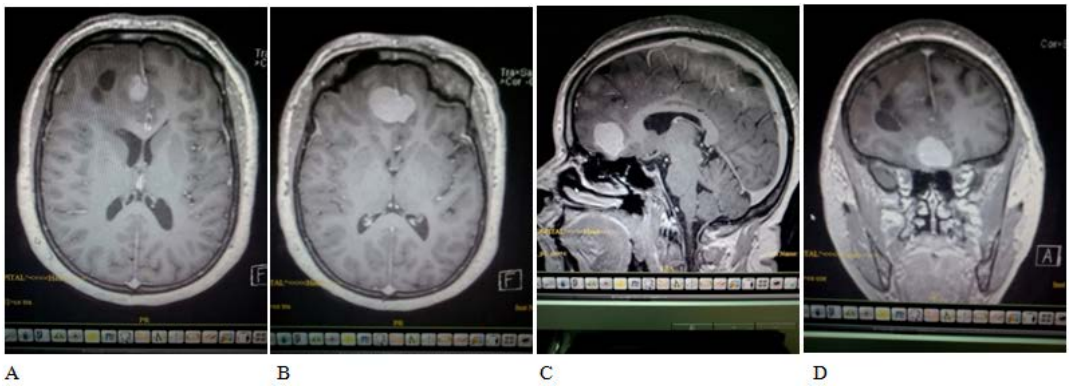

Figure 2. MRI brain with contrast showing the two lesions. A& B. T1 weighted image with contrast axial view, C Sagittal view, D Coronal view

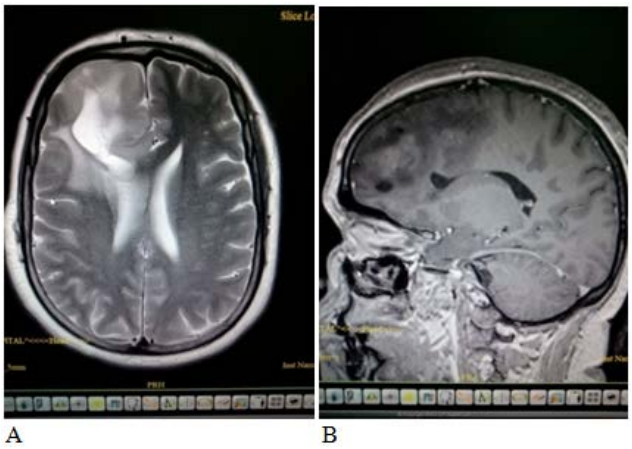

Figure 3. MRI brain T2 &T1 weighted showing two lesions. A T2 axial view, B T1 sagittal view

3. Results

Patient underwent left frontal craniotomy with extension to right side across midline and excision of the falcine meningioma was done along with left frontal lesion excision which was firm, moderately vascular and greyish in colour and frozen section revealed it to be glioma. Postoperative period was uneventful. Patient underwent suture removal after 7 days and was discharged home with advice to follow up in OPD.

Histopathology number HI605691 revealed lesion (A)to be having astrocytic and oligodendroglial features including minigemstocytes. Two mitosis per field was counted. Perivascular lymphocytic infiltration and calcifications were seen. Cells were positive for GFAP and S100. Astrocytic tumour cells were focally positive on immunostains. Ki-67 proliferative index was found to be low. Hence was reported oligoastrocytoma grade II.

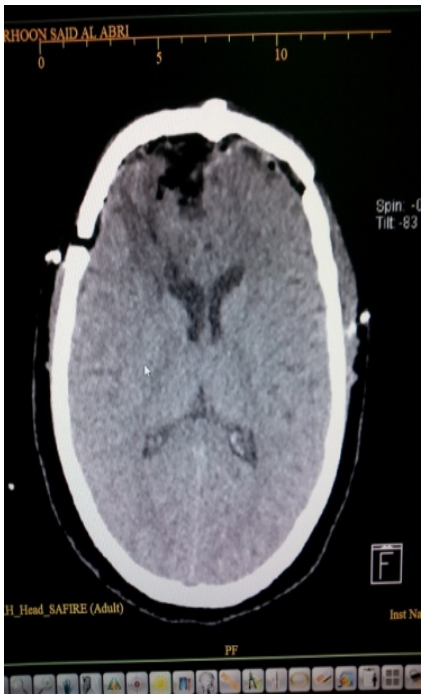

Figure 4. Post op CT brain axial view showing complete excision of lesions

Falcine Lesion (B) revealed moderately cellular tissues with oval nuclei and abundant eosinophyllic cytoplasm arranged in lobulated sheets with whorls. Upto 3 mitosis per high power field were noted. No atypical cells or glial infilteration were seen hence was reported grade I meningioma.

Patient was referred to radiotherapy for glioma. Patient is being kept on follow up in OPD with sequential scans and is doing well.

4. Discussion

Multiple neoplasms of different pathologies in same patient is a rare entity [3]. In some cases initial lesion was meningioma later glioma develops over a time period [1]. Patients can present with multiple symptoms say headache, dysarthria, memory disturbances and hemipaersis as per the location of lesion [3].

In literature review Sauc P et al reported in World Neurosurgery in 2016 a case of glioblastoma arising in a patient who was operated for a meningioma earlier. In 2009 in Neurocirugia Gutierrez et al reported coexistence of three tumours one low grade gioma, one glioblstoma and another meningioma in same patient. In 2002 Ching ong et al reported in Journal of clinical neuroscience reported coexistence of a glioblastoma and meningima in same patient but in opposite hemispheres. Similar citations were noted by Iyer VR et al in 2009, Raco A et al in 1994, Martin Antunes et al in 1978 and Nestler U in 2007 [4,5,6,8]. Vassal etal reported in 2014 in Acta Neurochirgca coexistence of low grade glioma with pitutary adenomas and vestibular schwanomma in their series [7].

Our patient was also in same category having a meningioma and glioma in close proximity. Being accessible in same surgical exposures both were excised simultaneously. One lesion being a grade II glioma (oligoastrocytoma) hence is being subjected to radiotherapy to give a longer life span to the patient. Patient is doing well in follow up.

Coexisting brain tumours are seen less frequently and are a challenge to the treating physicians. Genetic predisposition is also blamed for their coexistence. Nestler U in 2007 have emphasised genetic testing of tumor cells to be performed routinely when different histological types of brain tumors are present in a close spatial relationship [8]. However this facility is not available in our institution.

Excision of both tumours in one sitting in one planned craniotomy flap helped to minimize the hospital stay and could avoid multiple surgeries hence economical to health care system.

Our case report emphasizes further the rarity of coexisting different neoplastic pathologies intracranially as cited in literature.

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