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Meningioma as a Rare Presentation

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ABSTRACT

Background: *The most common extra axial primary central nervous system (CNS) tumor is meningioma, accounting for 36% of all CNS tumors. On neuroradiologic and gross assessment, the typical meningioma is lobulated. Cystic variants, although uncommon, are well recognized, and possibly be confused with metastatic or glial tumors.* ***Case presentation:*** *A 40-year-old female patient complaining of headache, Magnetic resonance imaging (MRI) revealed frontoparietal brain cystic lesion with intracystic nodule, given the differential diagnosis of low-grade gliomas, hemangioblastoma, pleomorphic xanthoastrocytoma, pilocytic astrocytoma and rarely meningioma. The histopathological slides showed the diagnosis of meningothelial meningioma (WHO/Mayo Clinic_ Grade I). Immunohistochemistry (IHC) was performed for epithelial membrane antigen (EMA) showing positive membranous stain but IHC staining for glial fibrillary acetic protein (GFAP) was negative for the cytoplasm.*

Conclusions: *Patient with cystic meningioma was reported. There is no absolute test for preoperatively distinguishing it from the most prevalent other gliomas. So avoiding any extra cost and time loss, angiographic assessment and cooperation with a histopathologist are of clinical importance for the identification of these possibly curable neoplasms.*

Keywords: Diabetes Mellitus, Pure Tone Audiometer, Sensorineural Hearing Loss.

Article Information

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INTRUDUCTION

Meningioma is the most prevalent extra axial primary central nervous system tumor; it accounts for 36% of all CNS tumors. It arises from arachnoid cells associated with dura mater or choroid plexus, grows along external surface of brain, spinal cord or occasionally, within the ventricular system [(1)].Three grades were exist based on WHO criteria [(2)], female affected more than male [(3)], hormone replacement therapy or oral contraceptives may be a risk factor [(4)]. On neuroradiologic and gross assessment, the typical meningioma is lobulated, solid, or globular mass that is anchored broadly to the dura mater. Cystic variants, although uncommon, are well identified, meningiomas with intramural cysts, may easily be mistaken with other glial or metastatic tumors [(5)].

CASE PRESENTATION

A 40-year-old female patient complaining of headache, MRI revealed frontoparietal extra-axial brain cystic lesion with mural nodule (Figure 1 A, B), given the differential diagnosis

of glioma, pleomorphic xanthoastrocytoma, pilocytic astrocytoma and rarely meningioma. In April 2023, about 10 ml of yellow colored fluid aspirated during surgical removal of the brain cystic lesion, and the histopathological slides showed the diagnosis of meningothelial meningioma (WHO/Mayo Clinic_ Grade I) (Figure 2 A, a). IHC was performed for EMA showing positive membranous stain (Figure 2B, b), and IHC staining for GFAP was negative for the cytoplasm to exclude the other diagnoses (Figure 2 C,

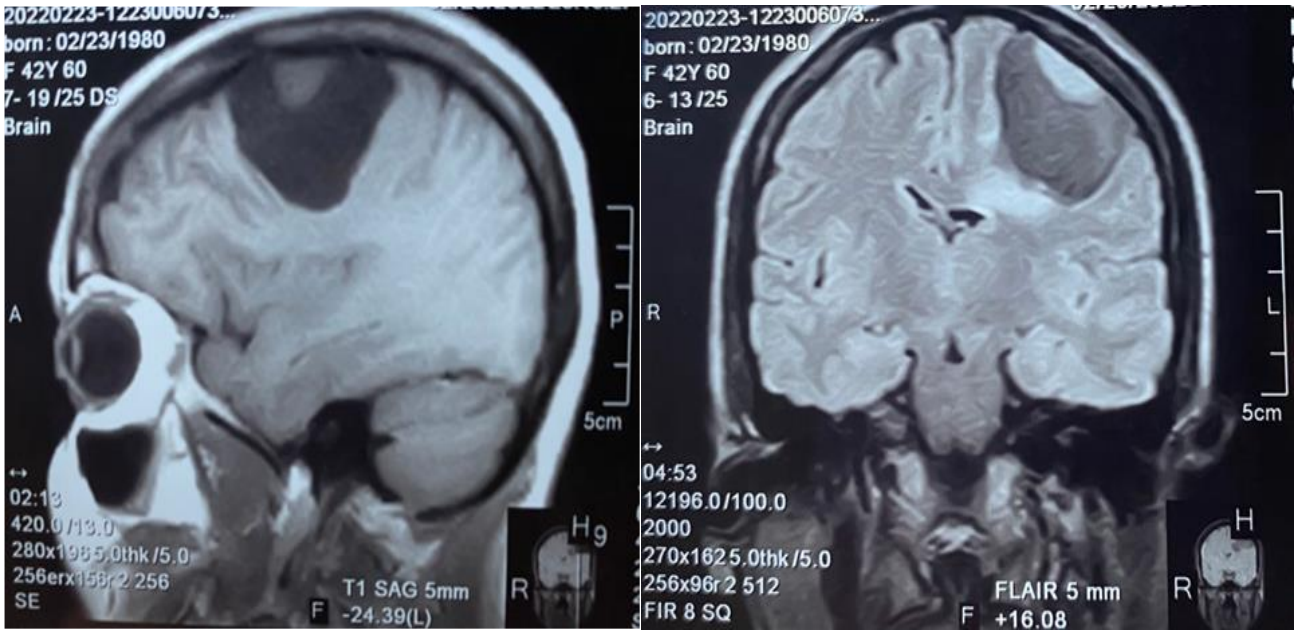

Figure (1): MRI showing left parasagittal frontoparietal cystic brain lesion, hypointense on T1 with enhanced mural nodule, mild edema and compression of left lateral ventricle. (A; sagittal view) (B; coronal view).

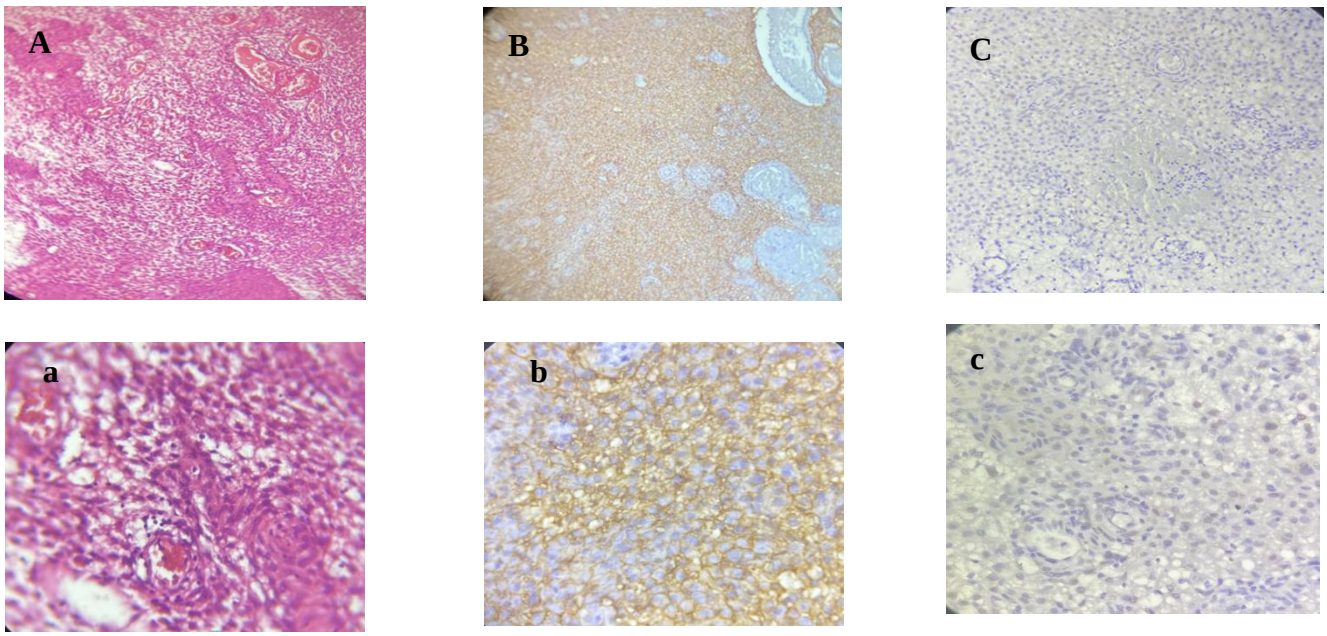

Figure (2): Morphological structures and IHC findings of the specimen slides. Hematoxylin and eosin staining (HE) showed the lobular microarchitecture with many meningothelial whorls (A, 10x; a, 40x). IHC showed that the neoplastic cells were positive for EMA, (B, 10x; b, 40x) and negative for GFAP (C, 10x; c, 40x).

DISCUSSION

Cyst with a mural nodule tumor (CMNT) is a pattern of the radiological findings for central nervous system (CNS) lesions seen in fluid-secreting neoplasms, including; commonly, hemangioblastoma[6], pilocytic astrocytoma[7] ,ganglioglioma[8], and pleomorphic xanthoastrocytoma[9].

Meningioma rarely manifested as cystic lesions with mural nodule and may be confused as one of the intraparenchymal cystic brain tumors. We here present a 40-year-old woman with a frontoparietal brain lobe cystic tumor, demonstrating MRI enhanced mural nodule. At first, differential diagnoses made including low-grade gliomas, hemangioblastoma, and cystic meningioma. Total removal of the lesion was done by surgical approach. Intraoperative evaluation showed that the tumor was extra axial, the cyst lined by a thin membrane and the content was yellow color fluid. The final diagnosis after the histopathological assessment was meningothelial meningioma, WHO grade I. Although hemangioblastoma, ganglioglioma, pilocytic astrocytoma, and pleomorphic xanthoastrocytoma, commonly exhibit such MRI finding, meningioma had to be added to such differential diagnosis.

CONCLUSIONS

Patient with cystic meningioma was reported. The computed tomographic scans or magnetic resonance images of the tumor similar to those of glial or metastatic neoplasms with necrotic or cystic changes. Meningioma should be added to differential diagnosis of CMNT. Preoperatively, there is no absolute test for distinguishing cystic meningiomas from the most common other gliomas. So avoiding any extra cost and time loss by other investigations, angiographic assessment and contacting the neuropathological results are of importance for the identification of those possibly treatable neoplasms.

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