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Original Research Paper

Pathology

CLEAR CELL MENINGIOMA; A RARE CASE REPORT

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KEYWORDS :

BACKGROUND -

Clear-cell meningioma is a rare, relatively aggressive variant of meningothelial neoplasm consisting of uniform sheets of clear polygonal cells with bland-appearing nuclei.[1-2] They are categorized as WHO grade 2 tumours, regardless of their mitotic index, cellular atypia/anaplasia, or presence of brain invasion.[3] It commonly occurs in younger age-group. The recurrence rate has been reported to be as high as 60%.[4-5] CCM involving the supratentorial area is relatively uncommon.[6] In this case report, we present a case of CCM in the temporo-parietal region in a young adult.

Case Report-

A 22-year-old male presented with complain of headache and right-sided weakness of 10-15 days. He had progressive vision loss in the left eye for the past 1 year. He had multiple episodes of focal-onset generalized tonic clonic seizures with poor drug compliance. There was mild right-sided seventh nerve weakness and hemiparesis. A magnetic resonance imaging scan of the brain revealed a left-sided large supratentorial tumor extending from the brain surface in the frontal and parietal cortex to the atrium and frontal horn of the lateral ventricle, causing significant compression [Figure 1]. There was brain edema with evidence of tentorial herniation. A gross total resection of the tumor was performed along with resection of the infiltrated duramater overlying the parietal lobe [Figure 2]. The patient had complete relief of headache and vomiting in the postoperative period and was free of seizures. Histopathology of the tumor revealed a diagnosis of Clear cell meningioma WHO grade II. The tumor was composed of mixture of meningothelial and clear cells arranged as diffuse sheets, some seen as small tight whorls [Figure 4]. The clear cells were polygonal with abundant clear cytoplasm, ovoid nucleus, evenly distributed chromatin and inconspicuous nucleoli [Figure 3].Few necrotic cells forming eosinophilic hyaline bodies were also seen. [Figure 5]. The tumor cells were positive for Vimentin [Figure 6] and faintly positive for Epithelial membrane antigen (EMA) [Figure 7] and and negative for S-100, synaptophysin, Glial fibrillary acidic protien (GFAP), cytokeratin and desmin. The MIB -1 index of the tumor was 8%. The patient is doing well at 6 months of follow-up.

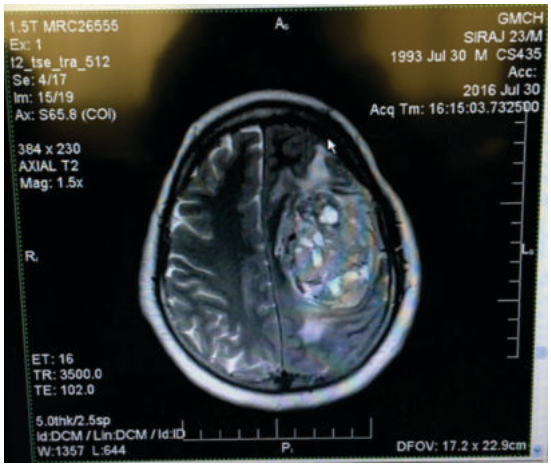

Figure 1 – MRI scan of the brain showing left-sided large supratentorial tumor extending from the brain surface in the frontal and parietal cortex to the atrium and frontal horn of the lateral ventricle

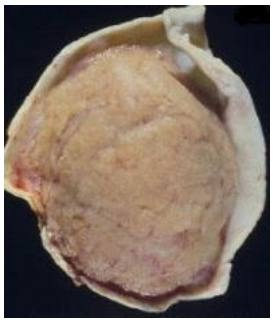

Figure 2 – Showing gross appearance of firm lobulated tumour with attached duramater

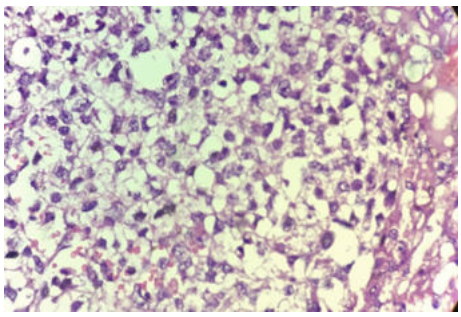

Figure 3. Clear cell meningioma showing sheets of cell with cleared out cytoplasm with centrally placed nuclei

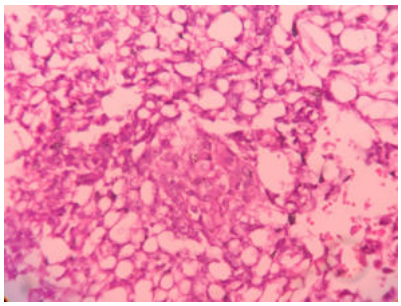

Figure 4 – Clear cell meningioma with central area showing focal meningothilial differentiation (whorls) and areas with a syncytial growth pattern.

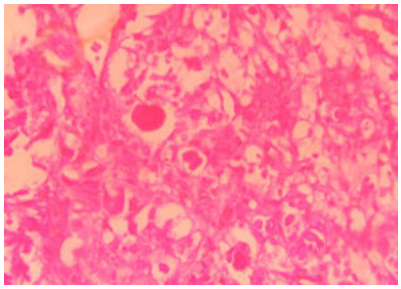

Figure 5 Clear cell menigioma with few necrotic cells seen as hyaline eosinophilic bodies.

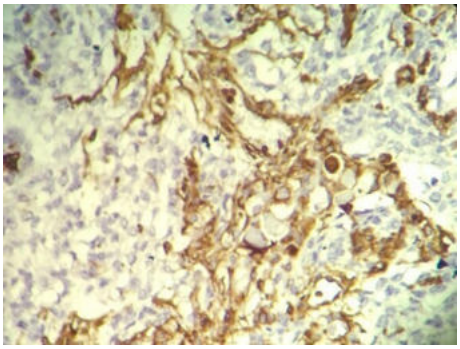

Figure 6 – Vimentin Positive

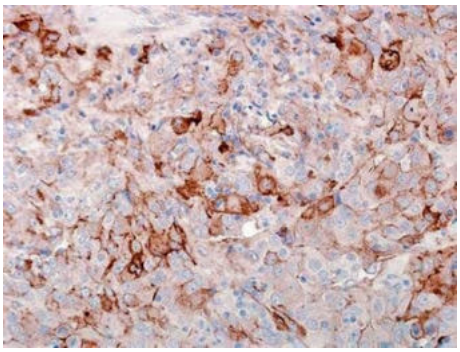

Figure 7 – EMA Positive

CONCLUSION -

Clear-cell meningioma is a histologically unique, rare aggressive subtype of meningioma that has a higher rate of recurrence than other typical meningiomas. Its recurrence occurs either through local recurrence or by CSF seeding. Complete excision remains the mainstay treatment of choice and radiotherapy may be administered in irresectable recurrences. A long-term follow-up is mandatory to truly decipher the natural course in these patients.

REFERENCES

1. Deb P, Datta SG (2009) An unusual case of clear cell meningioma. J Cancer Res Ther 5:324–327
2. Jain D, Sharma MC, Sarkar C, Suri V, Garg A, Singh M, Sharma BS, Mahapatra AK (2007) Clear cell meningioma, an uncommon variant of meningioma: a clinicopathologic study of nine cases. J Neurooncol 81:315–321
3. Louis DN, Ohgaki H, Wiestler OD, Cavenee WK, Burger PC, Jouvet A, Scheithauer BW, Kleihues P (2007) The 2007 WHO classification of tumours of the central nervous system. Acta Neuropathol 114:97–109
4. Kakita A, Takahashi H, Fusejima T, Konno K, Nakazawa T, Aoki K, Tanaka R, Ikuta F (1995) Clear cell variants of intracranial tumors: meningioma and ependymoma. Noshuyo Byori 12:111–116
5. Zorludemir S, Scheithauer BW, Hirose T, Van Houten C, Miller G, Meyer FB. **Clear cell meningioma. A clinicopathologic study of a potentially aggressive variant of meningioma.** *Am J Surg Pathol* 1995;19:493-505
6. Lee W, Chang KH, Choe G, Chi JG, Chung CK, Kim IH, Han MH, Park SW, Shin SJ, Koh YH (2000) MR imaging features of clear-cell meningioma with diffuse leptomeningeal seeding. AJNR Am J Neuroradiol 21:130–132