

Microcystic Meningioma - A Report of Two Cases

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Abstract

We report two cases of microcystic meningiomas - a distinct morphological variant. This unusual variant was originally described by Masson, who labelled it - "humid".

These tumours are soft with a glistening cut surface and cyst formation may be noted even macroscopically in some cases. They are characterized by a vacuolated and myxomatous histological appearance with multiple cystic spaces lined by stellate shaped tumor cells. We report cases in two elderly females who presented with complaints of generalized tonic clonic seizures. The tumors were extra-axial, one located in left posterior frontal region and the other in the right parietal region. Grossly, they were encapsulated, lobulated, with cystic spaces. Microscopically both tumors revealed stellate tumor cells with long cytoplasmic processes defining clear spaces (microcyst formation), predominantly. Mitosis, hemorrhage and necrosis were absent. The clinical and morphological findings point towards a benign course. The histological features lead to problems in differential diagnosis from other intracranial tumors including schwannomas, chordomas, astrocytomas and angioblastic meningiomas.

Introduction

Focal microcystic changes have occasionally been identified in typical meningiomas¹. However, tumours with extensive microcyst formation are rare. Such tumours were originally described and reported under a variety of designations, including humid, humid and myxomatous, vacuolated and microcystic.¹⁻⁴ They have subsequently been classified as a distinct subgroup of meningiomas in the World Health Organization (WHO) classification of central nervous system tumours.⁵ We report two cases of this rare entity in two elderly females who presented with history of generalized tonic clonic seizures.

Case Report

A 55 year old female presented with recent onset generalized tonic clonic seizures. MRI revealed an extra axial mass lesion in the right parietal region

with broad base towards the meninges. The second patient was 60 year old female who presented with history of generalized tonic clonic seizures of 6 months duration. Her MRI revealed an extra axial mass lesion in the left posterior frontal region with broad base towards the falx. The mass was enhancing brilliantly on contrast with presence of perilesional oedema. Grossly, both tumours were circumscribed, capsulated grayish white. On cut surface they were soft, glistening with tiny cystic spaces. Microscopy revealed marked microcystic changes throughout. The tumour cells were fibrillary with slender stellate processes giving the tissue a delicate lace like pattern. The cytoplasmic processes of the tumour cells surrounded round to oval microcysts. The cells had small, round to oval nuclei with stippled chromatin. Focal meningothelial and myxoid areas were also present. Mitosis and necrosis were absent.

Discussion

Meningiomas, occasionally show small areas having stellate cells giving out slender processes surrounding microscopic spaces,¹ however meningiomas with extensive microcyst formation are rare.⁶

Microcystic meningioma is a distinct

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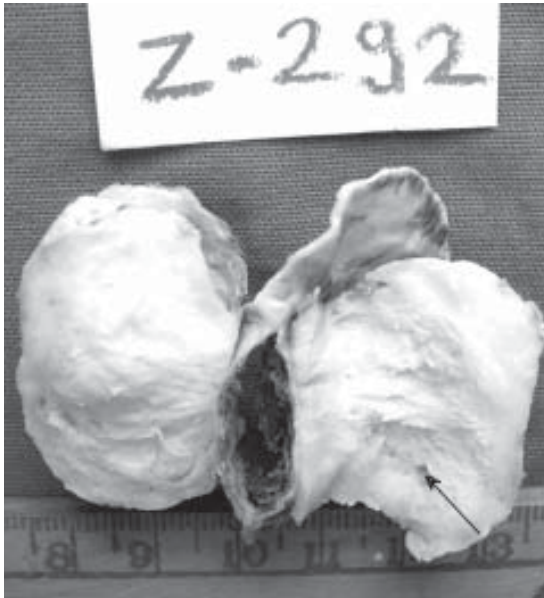


Fig. 1 : Gross photograph showing a circumscribed, capsulated, grayish white tumour. Cut surface is glistening with tiny cystic spaces (arrow).

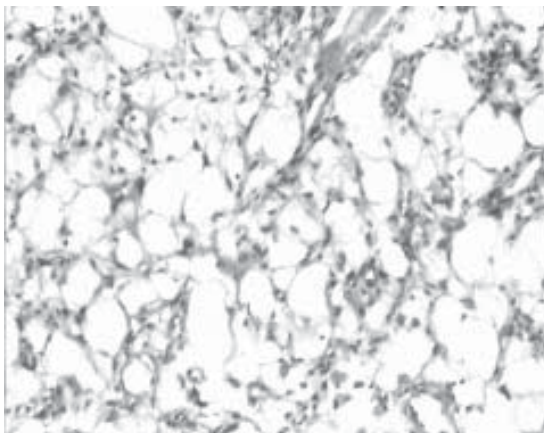


Fig. 2 : Tumour showing marked microcystic changes throughout the tumour. Cytoplasmic slender stellate processes giving a delicate lace like pattern. (H & E, 10 X).

morphological variant of meningioma, characterized by loose texture and microcysts, with formation of large extra cellular spaces containing oedematous fluid.⁷ Small focal areas of more recognizable meningothelial nests may also be present.⁶ Microcystic

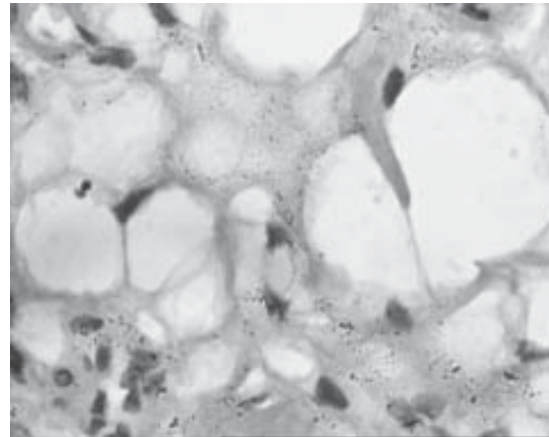


Fig. 3 : High power showing cytoplasmic processes of the tumour cells surrounding round to oval microcysts (H & E, 40 X).

meningiomas share the same immunohistochemical profile as classic meningiomas by staining for both vimentin and EMA.⁶ Mechanisms postulated for microcyst formation are secretory activity by the tumour cells; degenerative process; penetration of CSF into the tumour and vascular changes. Trabecular arachnoid cells found in tumour suggested that microcyst formation was an attempt by the neoplastic cells to recapitulate the sub arachnoid space.⁸

The importance of recognizing this entity lies in differentiating this tumour from other central nervous system tumours with a myxomatous appearance e.g. chordoid meningiomas, myxomatous schwannomas, microcystic gliomas, haemangioblastomas and metastatic carcinomas. Cords and trabeculae of eosinophilic cells with prominent inflammatory cell infiltrate in chordoid meningioma will help rule out microcystic meningioma. Positivity for S100 and negativity for EMA will favour myxomatous schwannoma. Haemangioblastomas are negative for EMA while metastatic carcinomas will show increased mitosis with absence of meningothelial

whorls.⁶

Despite their morphological differences, microcystic meningiomas are considered to have a clinical course similar to the typical meningioma and are considered as WHO grade I neoplasms.⁶

References

1. Kleinman GM, Liszczak T, Tarlov E *et al.* Microcystic variant of meningioma – a light – microscopic and ultrastructural study. *Am J Surg Pathol* 1980; 4 : 383-9.
2. Michaud J, Gagne F. Microcystic Meningioma: Clinicopathologic report of eight cases. *Arch Pathol Lab Med* 1983 ; 107 : 75-80.
3. Dahman HG. Studies on mucous substances in myxomatous meningiomas. *Acta Neuropathol* 1979; 48 : 235-7.
4. Eimoto T, Hashimoto K. Vacuolated meningioma : A light- and- electron microscopic study. *Acta Pathol Jpn* 1977; 27 : 557-66.
5. Louis DN, Scheithauer BW, Budka H, *et al.* Meningiomas. In : Kleihues P, Cavenee W, eds. *Pathology and Genetics of tumors of the Nervous System*. Lyon, France : IARC Press; 2000 : 176-184. *World Health Organisation Classification of tumors*; vol. 1.
6. Denise MH, Richard AP. A 37 Year Old Women With Dural-Based Intracranial masses. *Arch Pathol Lab Med* 2004; 129 (7) : e173-e175.
7. Paik SS, Jang SJ, Park YW, *et al.* Microcystic Meningioma. A case report. *J Korean Med Sci* 1996 Dec; 11 (6) : 540-3.
8. Lantos PL, Vandenberg SR, Paul Kleihues. Tumors of the nervous systems. In : Graham. Lantos editors. Greenfields, Neuropathology. Arnold : 1997 : 732.

MECHANICAL REPERFUSION : TREAT WELL, TREAT ON TIME TOO

The search for evidence in primary percutaneous coronary intervention (pPCI) has not been straightforward.

Of the three available glycoprotein IIb/IIIa inhibitors, abciximab has been the most extensively studied in pPCI.

Thus the acute effects of tirofiban or eptifibatide with the new regimens will probably compare favourably with abciximab, but whether they can translate into similar long-term clinical benefit remains unknown.

A clopidogrel dose of 600 mg is now recommended in PCI, but platelet aggregation is inhibited about 3 h later.

Designing a superiority study with high-dose tirofiban in addition to high-dose clopidogrel plus aspirin, in the prehospital setting to allow treatment of patients rapidly after the call.

Gilles Montalescot, The Lancet, 2008; 372 : 509-10.