Abstract:
We report a rare case of intraparenchymal meningioma. A 45 year old female presented with progressive right hemiparesis with right UMN facial weakness. Imaging showed left parietal intra-axial SOL. Patient underwent surgical excision of the SOL and histopathological examination revealed Rhabdoid meningioma. 

Keyword: Intraparenchymal meningioma, rhabdoid meningioma

Introduction:
Intraparenchymal meningiomas are very rare. Only a very few cases have been reported so far. Meningiomas are slow growing, extra-axial benign tumours. Meningiomas originate from arachnoid cap cells. Meningiomas may occur wherever the arachnoid cells are present. Meningiomas are well circumscribed non-infiltrating broad based dural attached lesion.

Case report:
A 45 year female patient who is a manual field worker by occupation had progressive neurological deficit in the form of deviation of angle of mouth towards left, followed by stiff weakness of right upper limb and lower limbs. There is no history of headache, vomiting, seizures, trauma, fever, chronic cough or sensory disturbance.

On examination of spinomotor system bulk was normal, hypertonia in right upper limb and lower limbs with grade four power, brisk deep tendon reflexes, plantar extensor and UMN right side facial weakness.

MRI brain revealed an intra-axial lesion in the left parietal region of size 2.1 x 2.8 cms, which was iso-intense on T1W1 and heterogeneously hyper intense T2W1 with contrast enhancement.
On doing left parietal osteoplastic craniotomy the dura was normal. After opening the dura normal cortex was visualized. Corticotomy done. A highly vascular, firm rubbery mass of size 2 x 3 cm was seen with an arachnoid plane at the depth of 1 to 1.5 cms, was removed en mass and sent for histopathological examination which revealed Rhabdoid meningioma WHO GRADE III. Post operatively patient recovered completely. No adjuvant therapy was advised by oncologist since total excision was done and on follow up for one and half years there is no recurrence.

**Discussion:**

Intraparenchymal meningiomas are without dural attachment and surrounded by brain parenchyma. It arises from arachnoid cap cells of piamater invaginate into the cerebral sulci. It is supplied by perforating vessels from branches of internal carotid artery in contrast to the usual meningioma which is supplied by the branches of external carotid artery.

Meningiomas constitute about 15% of intracranial tumors. In 1915 Harvey Cushing coined the term meningioma. Cushing and Eisenhardt (1962) in their classification of meningiomas classified meningiomas without dural attachment into 5 types 1. Intraventricular, 2. Pineal region, 3. Deep sylvian
4. Intraparenchymal or subcortical, and other-
as per literature, 23 cases have been re-
ported as intraparenchymal meningiomas, of
which majority were below 14 yrs. Incidence
was higher in children with a male predomi-
nance. Usually presents with seizure, hemi-
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the location frontal – 8, parietal – 5, temporal
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Pre-operative imaging is nonspecific and
cannot be differentiated from other intra axial
lesions. The regional cerebral blood flow
(rCBV) ratios of all tumours were calculated
via perfusion-weighted MRI. Meningiomas
are hypervascular and the mean rCBV ratio
was 10.58+/−2.00. For glioblastomas and
metastatic lesions, the rCBV ratios were
5.02+/−1.40 and 4.68+/−1.54, respectively. In
DSA -tumour shows tumor blush and HPE is
confirmatory. Peritumoral edema due to
arachnoid breach and recruitment of cerebral
vessels is characteristically seen in only one
part of tumor surface in contrast to other in-
tra axial lesions.

The Pathological characteristics of
Rhabdoid meningioma (RM) was first
described in 1998 as an unusual vari-
ant of meningiomas with increased pro-
liferative activity and is classified as a
WHO grade III meningioma. RM has
aggressive behaviour with very poor
prognosis. RM occurs mainly between
40 and 60 years of age (mean age-52
years) and had female predominance
(female-to-male ratio of 11:4, 73% fe-
male). The mean age at presentation
was 46.1 years and Atypical and malign-
ant meningiomas usually present ear-
ier than benign lesions.
The patients have variable presenting
symptoms depending on the location of
the tumors - seizure, hemiparesis and
gait disturbance for convexity or
parasagittal locations, eyelid paralysis
and exophthalmoses in sphenoid lesion
with orbit involvement. Most of the pa-
tients with RM had variable symptom
durations (average, 5 months; range,
from 2 days to 2 years). Behave ag-
essively and have a very poor prog-
nosis. Glioma, secondaries, lymphoma,
subdural sarcoid mass and Other in-
flammatory conditions are to be consid-
ered for differential diagnosis.
Fig 6: Post op CT scan plain shows left parital craniotomy and tumour excision no evidence of residual.
It is important to recognize rhabdoid morphology in a meningioma early to help in both the diagnosis and understanding of its clinical course. Although the improved prognosis may be attributed to total excision with the added effects of adjuvant radiation therapy, further long-term follow-up studies are needed.

References:

2 Principles of Neurological Surgery, 3rd Edition By Richard G. Ellenbogen, MD, FACS, Saleem I. Abdulrauf, MD, FAAN, FACS and Laligam N Sekhar, MD, FACS

3 Differential Diagnosis in Neurology and Neurosurgery by Sotirios A. Tsementzis 2000

4 Cushing H, Eisenhardt L: Menthgiomas. Their Classification, Regional Behaviour, Life History, and Surgical End Results, Springfield, CC Thomas 1938, pp 133—168


6 Neurol Med Chir (Tokyo) intraparenchymal Meningioma in an Infant 36, 598—601, 1996 ikuhide KoHAMA, Tsutomu SoHMA, Katsuyuki NUNoMURA, Koji IGARASH1, and Akashi 1SII-JKAwa* Departments of Neurosurgery and *Pediatrics, sapporo City General Hospital, Sapporo