Convexity meningioma case reports

A 36-year-old lady who presented with severe headache, seizure, and loss of consciousness in the postpartum period, five days after delivery of a full-term baby. Primary emergency evaluation revealed an extra-axial lesion with subdural hemorrhage. A Decompressive craniectomy was performed, hematoma was evacuated, and the tumor was totally resected. Histopathologic evaluation was consistent with a fibroblastic meningioma (WHO grade I). She was discharged in good general condition. The case highlights the significance of complete evaluation of patients with new-onset seizures in pregnancy or the postpartum period. Although uncommon, brain tumors in pregnancy can have potentially devastating outcomes which may necessitate prompt surgical intervention 1).

A 59-year-old woman presented with recent onset motor aphasia. Magnetic resonance imaging revealed a left convexity tumor. They performed gross total resection of the tumor, which was pathologically diagnosed as an atypical meningioma. Tumor resection and decompression of the normal cerebral hemisphere improved aphasia. However, 3 days after surgery, her motor aphasia worsened. Computed tomography scan confirmed that the frontal lobe was being compressed by an enlargement of the postoperative tumor cavity. Conservative therapy did not shrink the cavity, and her motor aphasia persisted. Therefore, 21 days after surgery, a drainage tube was inserted into the enlarged cavity using a neuroendoscope, which promoted shrinkage of the cavity and improved her motor aphasia. They suspected that the enlargement of the postoperative cavity was because of the presence of a valve-like structure.

Even though formation of symptomatic cystic lesions after brain tumor resection is rare, neurosurgeons should be aware of such early postoperative complications and their management strategies 2).

A 55-year-old diabetic woman presented with progressive frontal headache, anosmia, and blurred vision without rhinorrhea. Brain MRI showed an intracranial tumor of the left frontal convexity associated with a herniation of the frontal brain (encephalocele) into the left nasal cavity. CT-scan confirmed the anterior skull base defect. The intracranial tumor was totally excised following a left frontal craniotomy with a good outcome. Pathological examination revealed a meningothelial meningioma. However, the patient and her family refused any surgery for the ethmoidal encephalocele. In our case report, this rare phenomenon (secondary non traumatic encephalocele) probably occurred due to long-term increase of the intracranial pressure generated by the meningioma 3).

A case of a patient requiring marsupialization of an arachnoid cyst of the middle cranial fossa. On follow-up, 3 years postoperatively he showed no signs of recurrence or tumor growth. One year later, the fourth year after surgery on the cyst, he presented with large tumor growth into the former cyst's cavity. Pathologic workup after resection revealed an atypical meningioma (World Health Organization grade II).

They discuss the possible pathogenesis in light of the scarce published literature, as well as the differential diagnosis of this rapidly growing tumor. 4)
Simultaneous Convexity Meningioma and Prolactinoma 5).

A 65-year-old woman developed major depression and was treated with antidepressants for two years. Depression failed to respond to drug treatment and there was no improvement. Two months before admission to hospital, due to the onset of epilepsy attack the patient underwent reinvestigation, and a large temporal convexity meningioma, which corresponded in position to the original electroencephalography focus, was diagnosed using the computer topography of the brain. The patient underwent osteoplastic craniotomy, and a left fronto-temporal convexity meningioma of 5 cm in diameter was completely removed with its attachment to the dura. Histological examination confirmed a fibroblastic meningioma.

Total resection of convexity meningioma and decompression of the brain tissue in the region of limbic pathways that are involved, may contribute to a complete remission of depression symptoms. This case also illustrates the need for a prompt neuroimaging of the brain when patients present any atypical psychiatric symptoms, with late onset (> 50 years old) of the first depressive episode or fast changes of the mental state 6).

Subdural hematoma: a rare presentation of a convexity meningioma 7).

Acute headache originating from a bleeding convexity meningioma 8).

In situ reconstruction of parietal bone craniectomy after convexity meningioma resection 9).

A 72-year-old man presented with a space-occupying lesion at the site of the prior craniotomy one year after removal of a convexity meningioma with an extracranial extension. The lesion had grown outside the duraplasty with extracranial extension through the degenerative cranioplasty, and was removed. The histological diagnosis was granulation. The original dura-cranioplasty had been performed using Goretex dura substitute, hydroxyapatite cement, and fibrin glue-bonded autologous bone dust. This rare case of foreign body granuloma occurring after craniotomy with dura-cranioplasty indicates that detailed preoperative evaluation of tissue destruction based on neuroimaging is essential for construction of a suitable cranioplasty 10).

A 63-year-old female developed left hemiparesis caused by intracranial intratumoral and peritumoral hemorrhage with cerebral herniation 4 days after cerebral angiography to evaluate right convexity and petrosal meningiomas. The cerebral angiography procedure may have caused the tumoral edema and intracranial hemorrhage because computed tomography on admission revealed the right
convexity meningioma as slightly low density compared to before the hemorrhage. Administration of contrast medium is known to cause complications involving microcirculatory collapse and blood-brain barrier dysfunction associated with brain tumors. Therefore, the contrast medium may have affected the meningioma after cerebral angiography \(^\text{11}\).

A 67-year-old woman developed a Delusional misidentification syndrome after a right-sided frontally located recurrent convexity meningioma was removed by surgery. After antipsychotic therapy had been established, the patient recovered and the delusions disappeared within a few weeks. A misidentification delusion is a fixed, false belief about the identity of a person, an object, a place, or the time. In the differential diagnosis, psychiatric diseases and neurological diseases are prominent. Patients with a psychiatric disease are usually younger than 40 years, often have a psychiatric history, and usually, have other psychotic symptoms like paranoid delusions and hallucinations. Brain tumors and temporal lobectomy have previously been described as a neurological cause of a misidentification delusion; the surgical removal of a meningioma as such has not been previously described. In patients with a misidentification delusion, the connection between the perception of identity and its accompanying emotions and memories is disturbed. This connection primarily takes place on the right side of the brain, which is in accordance with the location of the removed meningioma in the described patient \(^\text{12}\).

A patient with a peritumoral cyst that enhanced despite the absence of tumor cells. Histological analysis demonstrated a gliotic cyst wall with numerous microvascular proliferation (MVPs) adjacent to a mixed transitional and angiomatous/microcystic meningioma. Immunoreactivity for a vascular endothelial growth factor (VEGF) and its receptor, flt-1, was observed in the endothelial cells of both intratumoral vessels and cyst wall MVPs. Immunoreactivity for tenascin-C was strongly observed within and around the vascular wall of MVPs and in gliotic tissue adjacent to the meningioma. These changes are unusual in the peritumoral brain parenchyma of a slow-growing convexity meningioma and the MVPs may account for the atypical contrast enhancement of the cyst wall despite the absence of tumor cells \(^\text{13}\).

A 46-year-old man with Werner Syndrome and a convexity meningioma. The patient had a 2-year history of paresthesia and paresis in his right leg, which had worsened in recent months. He underwent surgery with Simpson grade II removal, with improvement of the slight paresis and no other neurological defects. The patient then underwent radiotherapy (60 Gy). Histological examination revealed an atypical meningioma. Cytogenetic analysis showed a hypodiploid clone with a complex karyotype characterized by monosomy 22 and deletion 1p. After 3 years' follow-up no relapses had occurred.

1p deletion correlates with meningioma progression and in this case correlates with histological examination. The chromosomal instability underlying Werner Syndrome could have fostered the complex karyotype \(^\text{14}\).

Three cases of convexity meningioma manifesting spontaneous intracerebral haemorrhage with apoplectiform onset. All three patients had no evidence of bleeding tendency or other predisposing
factors for haemorrhage. Preoperative radiological studies showed a solid mass attached to the dura with intracerebral peritumoural haematoma. Total removal of the tumour and haematoma could be achieved in every case. Histological investigation revealed extensive tumour infarction in two cases and fibrosis related to preexisting ischaemia in the other case. The diagnoses were atypical meningioma in two cases and transitional type in one case. We suggest that extensive tumour infarction might be a cause of spontaneous intracerebral peritumoural haemorrhage in our series of patients.\(^{15}\)


O’Neill et al. described a meningeal artery aneurysm of the vascular pedicle of a convexity meningioma and reviewed the literature.\(^{16}\)

A 22-year-old male first underwent the total removal of left parieto-occipital convexity meningioma in 1965. Although he had lived an uneventful life after the operation, he recognized motor weakness of the left lower limb in April 1985 when he was 41 years old and CT revealed a large tumor in the parieto-occipital parasagittal region. He underwent the total removal of the tumor and cranioplasty on May 23, 1985. After the second operation, repeated recurrence of multiple tumors was seen, which were in the frontal, parietal and occipital convexities, parasagittal regions and falx. He underwent further operations on January 23, 1986, December 11, 1986, March 30, 1987 and July 20, 1987 in addition to the first and second ones. Histological study on every operation indicated malignant meningioma with mitosis, hypercellularity and necrosis. Though radiotherapy (56 Gy whole brain irradiation) was conducted after the sixth operation, multiple tumors recurred and clinical symptoms and signs deteriorated gradually and he finally died September 9, 1989. In malignant meningioma such as our case, early aggressive radiotherapy and chemotherapy should be considered besides radical operations.\(^{17}\)

Cohen et al. reported an unusual complication related to a dural substitute. An inflammatory response to a Marlex mesh duraplasty simulated a recurrent convexity meningioma 20 years after the initial surgery.\(^{18}\)

A 60-year-old female suffering from subarachnoid hemorrhage followed by left oculomotor nerve palsy due to rupture of left ICP aneurysm, with left convexity meningioma which was found incidentally during preoperative cerebral angiography.\(^{19}\)
References


13) Arai M, Kashihara K, Kaizaki Y. Enhancing gliotic cyst wall with microvascular proliferation adjacent to


