Cerebellar convexity meningioma

The tumor arises dorsal to the cerebellum, which results in the interposition of the cerebellar hemispheres between the tumor and the cranial nerves; therefore, no cranial nerves are encountered during the surgical exposure. Cerebellar convexity meningiomas are easily and accurately diagnosed via magnetic resonance imaging (MRI) or computed tomography (CT), and the surgical outcome is quite favorable.

They are usually attached to the tentorium, cerebellar or petrous dura, and may invade the transverse or sigmoid sinus.

Group A: Pure convexity meningiomas arising from the dura over the posterior convexity of the cerebellum.

Group B: Inferior peritorcular meningiomas arising from or invading the inferior wall of the torcular Herophili or the medial transverse sinus.

Group C: Parasinusal meningiomas arising in the angle beween the petrous and convexity dura. These tumors may include the wall of the sigmoid and lateral transverse sinuses. The major part of cerebellar convexity meningiomas belongs to this subgroup.

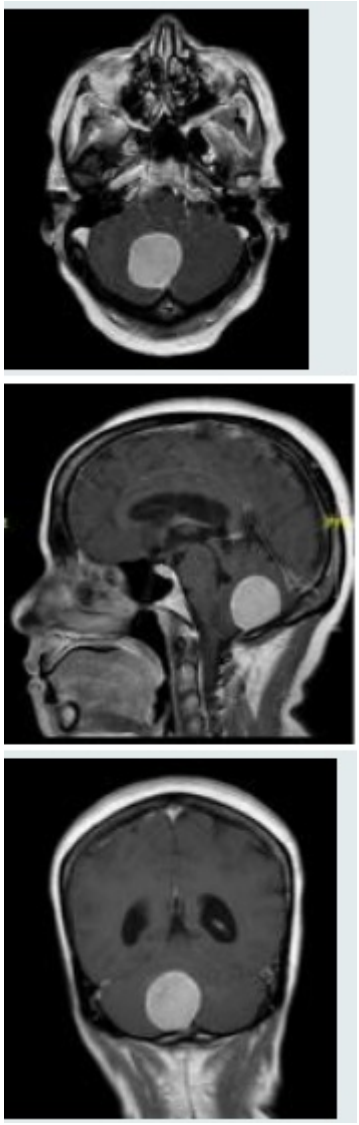
Group D: Meningiomas with secondary invasion of cerebellar convexity/fossa. This is the case of the rare intraosseus meningiomas of the posterior fossa and of other posterior fossa meningiomas with a consistent dural attachment in the cerebellar convexity [1)].

Yasargil and colleagues classified cerebellar meningiomas as the fourth group of dorsal meningiomas and divided them into median, paramedian, and lateral lesions [2)].

Clinical Features

There is no well defined clinical pattern characterizing these lesions. Often the patient is asymptomatic until the tumor becomes large enough to cause signs and symptoms of increased intracranial pressure and hydrocephalus.

Sometimes the patient may present with headache or progressive cerebellar dysfunction ipsilateral to the tumor.“ An elevation of intracranial venous pressure may occur in case of dural sinus invasion, expecially in the peritorcular meningiomas. For this reason, a small tumor growing inwardly into a sinus can cause early florid clinical symptoms.' The clinical picture can be devious and mistaken for one of the more familiar diseases, particularly when false localizing signs occur. In the latter case, diplopia, trigeminal neuralgia, facial nerve palsy, hearing disturbance, tinnitus on the contralateral side, lower cranial nerve signs, truncal ataxia, and even bulbar palsy have all been reported and were attributed to the brain stem compression or to the cranial nerves stretching at the edges of dural orifices of the posterior fossa. [3)].



Surgery

An adequate head position is important to keep intracranial venous pressure relatively low.

The head is positioned higher than the heart, tilting the cranial half of the operating table about 30 to 45 degrees.

Group A meningiomas can be approached with the patient in the prone position and with the head slightly flexed. A linear or a reverse U-shaped skin incision can be used.

The incision is carried through all layers of the scalp and pericranium, which are then elevated and held retracted over a rolled sponge.

The craniotomy can be uni- or bilateral according to the location of the tumor and of the invasion of the occipital sinus that can be sacrified. Removal is accomplished by a repetitive series of internal debulking and extracapsular microdissection. A careful dissection of the tumor from the surrounding cerebellar cortex and cortical vesels is needed to avoid damage of the vermian branch of the posterior inferior cerebellar artery and of cerebellar venous drainage, which can cause postoperative cerebellar strokes or edema.

Group B meningiomas can be approached with the patient in prone position. In cases with secondary supratentorial inva-sion, the Concorde position may be useful for performing a combined suboccipital/transtentorial/occipital approach:

The skin incision varies according the number of peritorcular quadrants containing tumor. After suboccipital craniotomy, a piecemeal rongeuring of bone is the safest method of dural

see more [4].

Case reports

A case of left sided convexity cerebellar meningioma associated with right trigeminal neuropathy in a 63-year-old lady is presented. Suboccipital craniectomy (left) and near total removal was done. The hypoaesthesia of right hemiface disappeared totally at the time of discharge [5].

[1], [3]
Delfini R., Santoro A., Pichierri A. (2009) Cerebellar Convexity Meningiomas. In: Lee J.H. (eds) Meningiomas. Springer, London
[2]
https://clinicalgate.com/cerebellar-convexity-meningiomas/#bb0040
[4]
https://books.google.es/books?id=c_j9piinzy8C&pg=PA457&lpg=PA457&dq=Cerebellar+convexity+meningioma&source=bl&ots=c_dO5ygzo3&sig=wQUeltBVIO8_ThsYreXmtFVxRIs&hl=es&sa=X&ved=0ahUKEwjq9rGsgsfZAhWEOxQKHbMfCE4Q6AEIUDAE#v=onepage&q=Cerebellar%20convexity%20meningioma&f=false
[5]
Ghosh K, Ghorai SP, Saha S, Roy S. Contralateral trigeminal neuropathy in a case of convexity cerebellar meningioma. J Indian Med Assoc. 2010 Sep;108(9):602-3. PubMed PMID: 21510535.