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Gasserian ganglion neurosarcoidosis mimicking trigeminal schwannoma

Neurosarcoidose do gânglio de gasser simulando um schwannoma trigeminal

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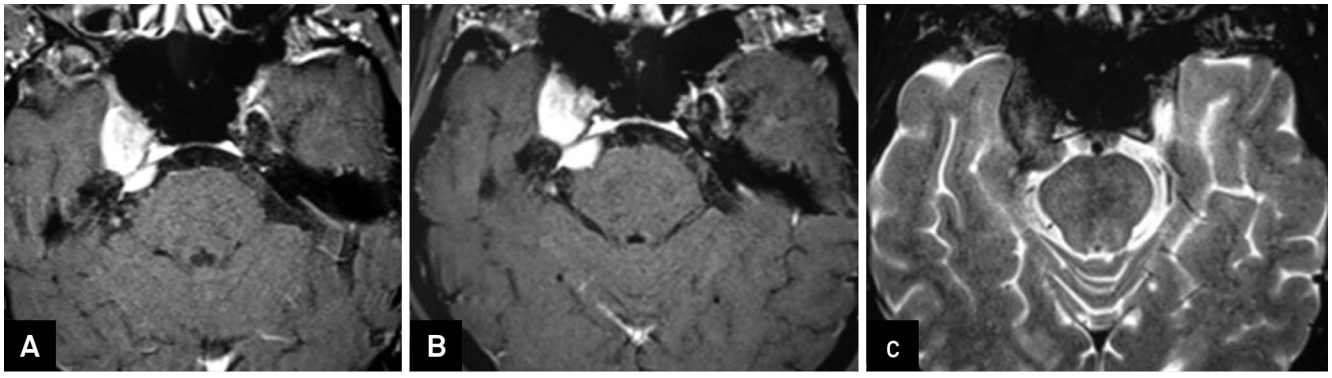
A MRI of a 59-year-old male with right hemifacial hypoesthesia showed a low signal T2-weighted expansive mass in the right Meckel's cave. After failure of initial conservative treatment (Figure 1), surgery was done with partial lesion resection (Figure 2). The pathology and chest CT were consistent with granulomatous disease: neurosarcoidosis. On follow-up the lesion increased in size but after corticosteroids it reversed (Figure 3). The involvement of the trigeminal nerve is very rare with only few cases described in literature. Although rare, sarcoid infiltration of the Gasserian ganglion must be considered in the differential diagnosis of an isolated mass at Meckel's cave, especially if it has T2 hypointensity signal.



(A) Initial pre-operative enhanced axial T1-weighted MR images hows an expansive lesion in the right Meckel's cave; (B) Follow up one month later demonstrates enlargement of the lesion with a larger pre-pontine cistern component; (C) Axial T2-weighted image obtained at the same time as B shows that the Meckel's cave mass presents an unusual hypointense signal on this sequence. Sarcoidosis may produce a hyper- or hypointense signal on T2-WI, an iso- or hypointense signal on T1-WI and intense post-contrast enhancement with thickening of the nerve2,4. In our patient, MR imaging revealed a T2 low signal mass in the right Meckel's cave that was interpreted as a possible unilateral schwannoma/neurofibroma. Most of neurosarcoidosis lesions that presents as masses have a very low signal on T2-WI, which can be a clue to consider sarcoidosis in the differential diagnosis, although not exclusive, remembering IGG4-related disease as another possible etiology.

Figure 1. Initial pre-operative images and follow up one month later.

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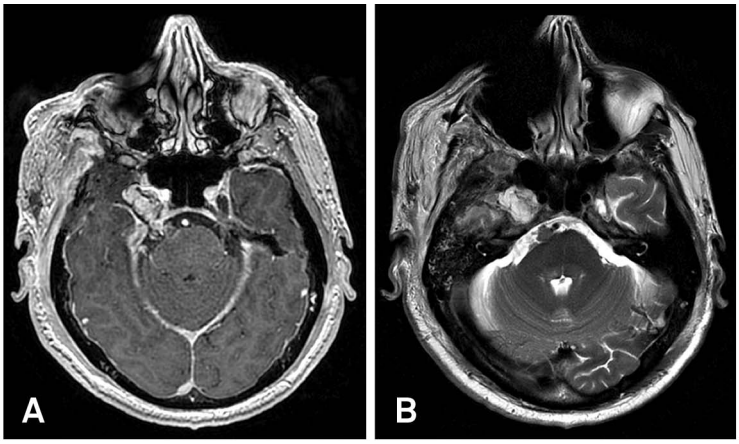
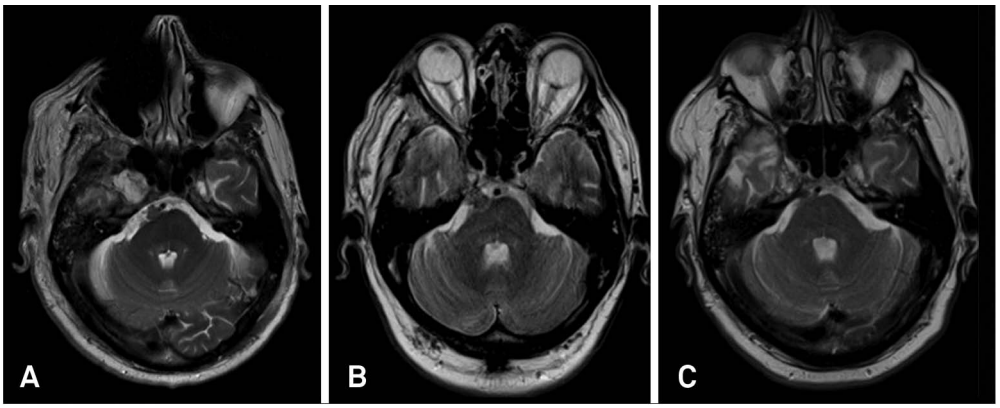


Early post-operative evaluation enhanced axial (A) T1-weighted and (B) T2-weighted MR images showing a partial resection of the right Meckel's cave lesion. An extradural middle fossa approach was used (peeling of the middle fossa), and a firm, yellowish, extradural lesion, not amenable to aspiration, was detected. The lesion displaced the distal roots of the trigeminal nerve and extended into the intradural space. The extradural component of the middle fossa was removed and, because of the marked adhesion to the proximal root of the trigeminal nerve at the cerebellopontine angle, a partial resection was chosen for that site, since the lesion extended deeply into the pontine cistern. Note also a residual lesion in the right pre-pontine cistern.

Figure 2. Early post-operative evaluation.



Axial T2-weighted images in the follow up at (A) 1 month, (B) 5 months, and (C) 9 months after partial surgical resection. One month following surgery and prior systemic steroid therapy; (A) the MR revealed a residual lesion in right pre-pontine cistern. After 5 months, a follow up; (B) MRI revealed significant volume increase in the residual lesion in the pontine cistern. Steroid therapy was then initiated; after four months of treatment, another follow-up brain; (C) MRI showed significant reduction in the pontine cistern lesion. Clinical improvement was achieved, with complete resolution of the right-sided facial sensory symptoms, but there were no significant alterations in the thoracic and mediastinal findings. So, neurosarcoidosis should be considered in the differential diagnosis of Gasserian ganglion lesions, although trigeminal meningiomas and schwannomas are much more common[4].

Figure 3. Follow up after surgery with steroid therapy.

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