

Neuro-Ophthalmology

TOLOSA-HUNT SYNDROME: Report of Two Cases

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ABSTRACT

Tolosa-Hunt syndrome (THS) is a diagnosis of exclusion; it is retained only after ruling out tumoral, infectious, and inflammatory conditions. Our study concerns two patients hospitalized for the management of unilateral retro-orbital pain with impairment of ocular motility. Brain MRI, which is a reference examination for the diagnosis of Tolosa-Hunt syndrome, shows a tissue formation of the cavernous sinus, isointense on T1 and isointense on T2, enhancing after Gadolinium injection. The treatment of our patients is based on corticosteroid therapy, which led to a dramatic regression of symptoms. It should be noted that few cases of painful ophthalmoplegia, including Tolosa-Hunt syndrome, have been reported in the literature. The etiology remains unknown in more than 25% of cases despite an extensive etiological investigation. The use of cortisone (corticosteroid therapy) gives excellent results; however, clinical follow-up is mandatory in order to detect possible recurrences.

Keywords: Tolosa-Hunt, Cavernous sinus, corticosteroid therapy, MRI.

INTRODUCTION

Tolosa-Hunt syndrome is a more or less complete, painful, granulomatous ophthalmoplegia, most often unilateral, caused by nonspecific inflammation of the cavernous sinus region and the sphenoidal fissure of unknown origin.

The diagnosis meets precise clinical and radiological criteria. Its course is spontaneously regressive within a few weeks, this period being dramatically shortened under corticosteroid therapy. Its ipsilateral or contralateral recurrence is frequent. Two observations illustrate this discussion.

CLINICAL CASE No. 1

This is a 52-year-old hypertensive female patient who presented with subacute-onset ophthalmoplegia.

Examination reveals incomplete involvement of the third (III) cranial nerve, sparing the pupil, with involvement of the fourth (IV) and sixth (VI) cranial nerves.

The optic nerve is preserved and there is no involvement of the ophthalmic and maxillary divisions of the trigeminal nerve.

The remainder of the clinical examination is normal. Furthermore, the complementary investigations are unremarkable, except for an elevated erythrocyte sedimentation rate.

Biological examination of the cerebrospinal fluid (CSF) shows no abnormalities.

Brain MRI demonstrates a tissue formation within the cavernous sinus, isointense on T1 (Fig. 1, Fig. 2), but also isointense on T2 and enhanced after intravenous Gadolinium injection.

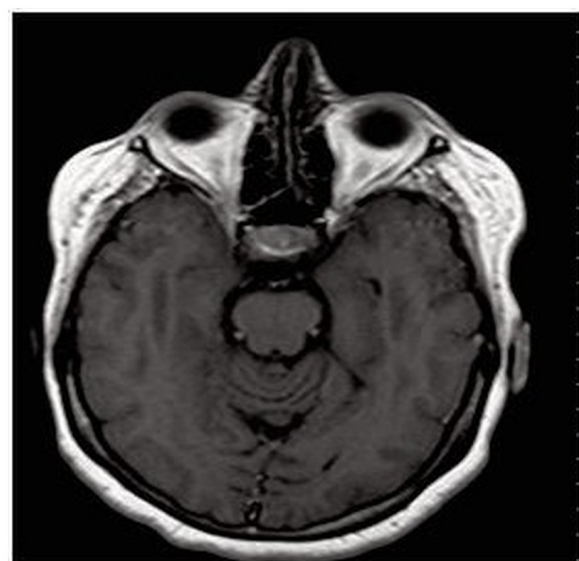
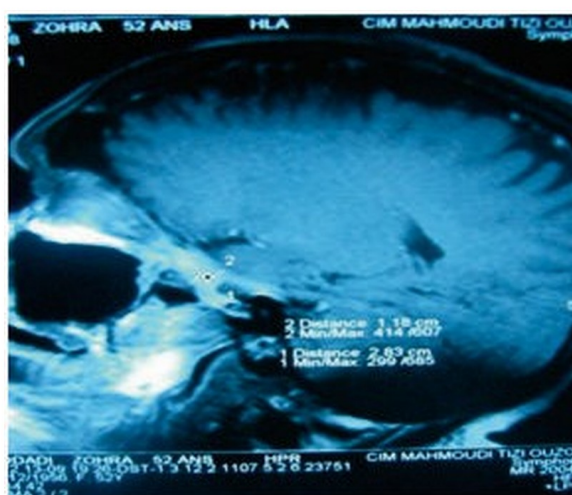


Fig. 1 - Fig. 2: Tissue formation at the level of the cavernous sinus, isointense on T1

CLINICAL CASE No. 2

A 29-year-old patient, with no particular pathological history, was admitted to the emergency department for right fronto-orbital headaches with decreased visual acuity in the right eye.

Clinical examination reveals complete involvement of the third (III) cranial nerve, with involvement of the optic nerve and the ophthalmic division of the trigeminal nerve. Decreased visual acuity is found as well as right exophthalmos. The remainder of the neurological and general examinations is unremarkable. The biological work-up as well as the examination of the cerebrospinal fluid (CSF) reveals no abnormality.

Brain MRI demonstrates a tissue lesion of the cavernous sinus extending toward the right subtemporal fossa, isointense on T1 and isointense on T2, with homogeneous enhancement after Gadolinium injection. Both patients were placed on medical treatment based on corticosteroids: Solumedrol 1 mg/kg/day (i.e., 40 mg twice daily) and a high-protein diet.

A regression of the symptoms is noted by the 5th day for the first case and by the 7th day for the second case. Maintenance treatment is instituted: corticosteroid therapy 0.5 mg/kg/day for 3 months.

After 04 months, MRI demonstrates complete disappearance of the lesion in both patients (Fig. 3 and Fig. 4).

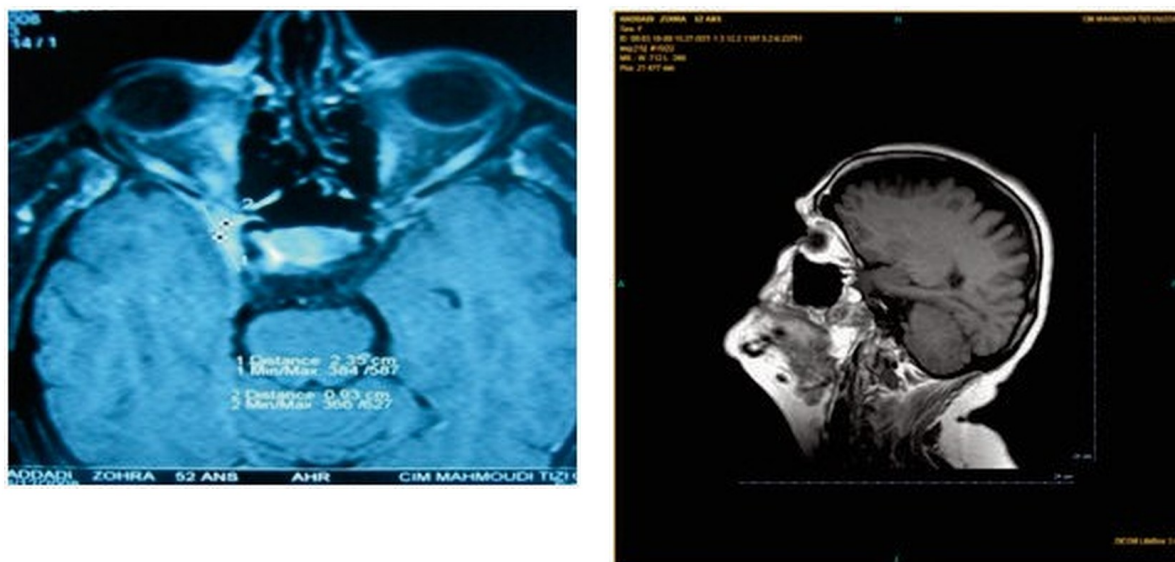


Fig. 3 - Fig. 4

As part of the follow-up of the 1st case, the female patient has been asymptomatic for 4 years, whereas the 2nd case remained asymptomatic until his last consultation, i.e., 2 years after hospitalization.

DISCUSSION

Tolosa-Hunt syndrome was first described in 1954 by Tolosa, then in 1961 by Hunt [2, 3]. It is a nonspecific granulomatous inflammatory condition of the cavernous sinus and the sphenoidal fissure.

It is a diagnosis of exclusion, rare in children, and is seen in adults without sex predominance [4].

Clinically, Tolosa-Hunt syndrome manifests as continuous, lancinating, unilateral retro-orbital pain, rarely bilateral, and total ipsilateral ophthalmoplegia (paralysis of III, IV, and VI) or partial ophthalmoplegia (paralysis of III alone or VI alone) [2, 3, 4, 5].

In our two cases, involvement of III and VI is present. In contrast, involvement of IV and II, associated with mild exophthalmos, is present in only one case.

These symptoms are not specific to Tolosa-Hunt syndrome and can be seen in all disorders of the cavernous sinus compartment and orbital apex [4, 5].

Brain MRI demonstrates enlargement of the cavernous sinus, containing a tissue mass isointense on T1, enhanced after Gadolinium injection [4, 5, 7].

The biological work-up as well as CSF examination are normal in both of our patients, except for an elevated ESR in one case.

Treatment was first proposed by Smith and Taxdal in 1966, based on systemic corticosteroids at a dose of 60 to 80 mg/day [1].

This treatment led to a dramatic improvement in symptoms in both of our patients. Some authors indeed consider corticosteroid therapy as a diagnostic test, but the latter has no absolute value; it may be negative [5, 6].

Tolosa-Hunt syndrome is corticosteroid-resistant in this case. When it is positive, it may correspond to other inflammatory conditions (Wegener syndrome, vasculitis), tumoral conditions (lymphomas, ...), or even ophthalmoplegic migraines.

The natural course is toward remission with or without sequelae, but ipsilateral or contralateral recurrences may occur. In contrast, the course under corticosteroids is classically dramatic without necessarily producing immediate radiological clearance [5, 6, 7]. The differential diagnosis may include lymphoma, meningioma, a specific inflammatory process (localized sarcoidosis of the cavernous sinus), an infectious cause (ophthalmic herpes zoster, sphenoidal sinusitis), or ophthalmoplegic migraine [6].

CONCLUSION

Tolosa-Hunt syndrome is a distinct anatomoclinical entity, despite the lack of knowledge of its etiopathogenic basis. It is a recurrent painful ophthalmoplegia that is generally corticosteroid-sensitive. Its diagnosis is clinical, radiological, and therapeutic, but remains a diagnosis of exclusion.

MRI is a valuable examination because of its better sensitivity for detecting cavernous sinus lesions and its reproducibility. However, it remains nonspecific because several conditions can

mimic Tolosa-Hunt syndrome. Therefore, a neuroradiological and systemic investigation is mandatory in order to rule out other tumoral, inflammatory, or vascular causes.

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