

A Case of Cavernous Sinus Thrombosis Presenting with Lateral Rectus Palsy

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Abstract: Cavernous sinus is a hollow space underneath the brain behind the eye sockets. Cavernous sinus thrombosis is a rare but life-threatening condition which can occur as a complication of sinusitis, orbital cellulitis, otitis or trauma. It can present as headache, fever, periorbital swelling and ophthalmoplegia requiring prompt treatment. Here is a case of a 15 year female adolescent presenting with fever, headache and diplopia. MRI brain was suggestive of right CVST, was treated with antibiotics, antifungal and anticoagulants. The patient responded to treatment in 3 days with resolution of all symptoms.

Keywords: Cavernous sinus thrombosis, Lateral rectus palsy, headache, ophthalmoplegia

1. Introduction

Pediatric cavernous sinus thrombosis is a very rare and life threatening condition of septic and aseptic etiologies involving the cavernous sinus.

Incidence³-0.67 per 100 000 children per year

During the pre-antibiotic era, mortality was estimated to be 100%, and was found to be 79% as recently as 1988⁴

2. Objective

To describe a case of cavernous sinus thrombosis who presented with headache and fever for 1 week along with right sided lateral rectus palsy.

3. Case Description

15 year old female presented with history of headache and fever for 1 week and history of double vision for 2 days
On examination-thin built with marfanoid features.

Right lateral rectus palsy was present (Figure 1a &1b)

With signs of meningeal irritation with no signs of raised intracranial pressure.

On further investigation,

CHG-Hb 9.9, TLC 12700 N64 L28, PLT-1.68 lakhs, ESR-16 ICTC, IgM scrub and TB workup was normal
CSF study-normal

MRI-Sphenoidal and right posterior ethmoidal sinusitis with bony erosion of sphenoid sinus and orbital apex on right side and extension into right cavernous sinus with cavernous sinus expansion and bulging convex wall with e/o non enhancement on post contrast images with luminal narrowing of right ICA in cavernous and supraclinoid part-s/o right cavernous sinus thrombosis (Figure 2)

Treatment and follow up

Started on iv antibiotics, antifungals and anticoagulants, headache became passive on day 3 and child was discharged and kept on follow up

4. Discussion

Case reports⁵ of cavernous sinus thrombosis describes it as a complication that is associated with septic thrombosis of the internal jugular vein, meningitis, sinusitis, otitis media, dental abscess, facial soft-tissue infections, wasp bites, and other causes.

Due to its rarity, high index of suspicion is needed for its diagnosis. The largest case series published in India, included 14 children from 1985 to 1988⁶.

More commonly seen with ethmoidal and sphenoidal sinusitis.

Staphylococcus aureus is the most common organism

It is a common complication of congenital cyanotic heart disease usually with iron deficiency⁷

Prothrombotic disorders were found in between one-third and half the cases⁸

MRI has been found to be the most sensitive imaging modality and is the gold standard.

Once there is a suspicion of CSVT, empiric antimicrobial therapy should be started

Based on the high morbidity associated with fungal infection, antifungal are added.

Along with it, hydration should be maintained, control of seizure activity with anticonvulsants, and measures aimed at decreasing intracranial pressure.

Antithrombotic therapy of CSVT in childhood has been influenced by clinical trials in adults⁹

The options for treatment of infants and children include standard or low molecular weight heparin for 7–10 days followed by oral anticoagulants for 3–6months.

Thrombolytic therapy and mechanical thrombectomy are sometimes used for extensive thrombosis of superficial and deep venous structures¹⁰



Figure 1 (a): On left gaze



Figure 1 (b): On right gaze

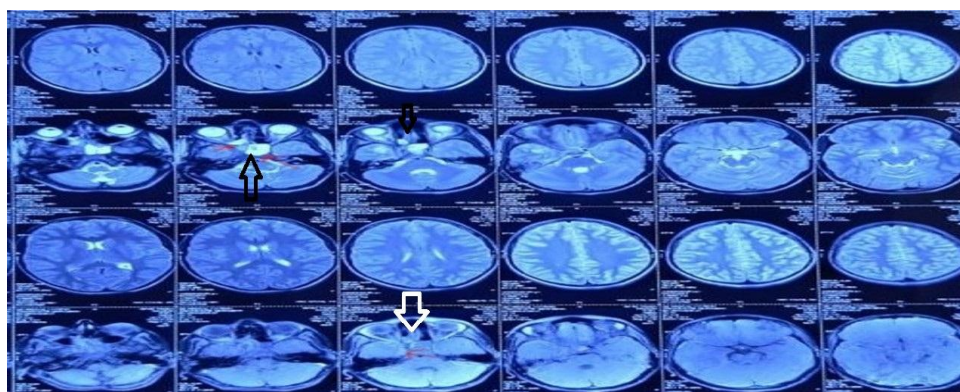


Figure 2: MRI brain

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