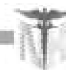

Bilateral Proptosis: Unusual presentation of Cortical Sinus Thrombosis

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Abstract

We present a rare case of bilateral proptosis in an adult female after acute stroke. A 30yr. old female, had presented in medicine emergency with diffuse headache and bilateral proptosis with nausea and vomiting. CT scan of brain showed left cavernous sinus and superior ophthalmic vein thrombosis with Right subdural hematoma (9cm x1.5cm).

Keywords: stroke, proptosis, cortical sinus venous thrombosis.

INTRODUCTION

Thrombosis of the cerebral veins and sinuses is a distinct Cerebrovascular disorder that, unlike arterial stroke, most often affects young adults and children. The symptoms and clinical course are highly variable. The estimated annual incidence is 3 to 4 cases per 1 million population and up to 7 cases per 1 million among children.

About 75 percent of the adult patients are women. During the past decade, increased awareness of the diagnosis, improved neuroimaging techniques, and more effective treatment have improved the prognosis. More than 80 percent of all patients now have a good neurologic outcome. We present here a case report of a middle aged female who presented with history of headaches and bilateral Proptosis.

CASE SUMMARY

A 30 year old female presented to the emergency department of the hospital with diffuse headache and bilateral proptosis, which was associated with vomiting. On examination she was conscious, oriented, but anxious. She also had low grade fever. There was no h/o ear discharge, cough, or burning micturition. She was normotensive and nondiabetic. There was no history suggestive of seizures. No past history suggestive of convulsions, tuberculosis. She is P2L2A0 and the previous deliveries were normal without any complicating events.

On CNS examination Left Eye movement was restricted (III nv palsy); Papilloedema were also present. All other cranial nerves were normal. There was no other neurological deficit. Deep tendon reflexes were preserved and plantars were flexors.

Local examination Of Eyes : Bilateral Proptosis present more on left side. There was also associated chemosis and corneal haziness (due to exposure of cornea). Other systemic examination was unremarkable.

On examination her pulse was 120/min and regular. Her blood pressure at the time of admission was 120/70 mmHg in left upper limb supine position. She was pale and anicteric. Her hemoglobin was 10.5 gm/dl, total leukocyte count was 15,000 per cubic mm. Platelets were normal. There was no sickle cell on peripheral smear. Anti phospholipids antibody was normal. Her chest film was normal.

Patient underwent plain and post-contrast CT head. CT scan showed cortical sinus venous thrombosis extending to bilateral superior opthalamic veins *[Fig 1]*. There was also right subdural hematoma *[Fig 2]*.

On the basis of this CT scan findings and clinical features we treated the patients with I.V. mannitol, higher antibiotics and

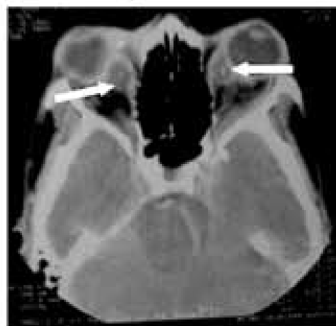

FIG 1 : Bilateral Ophthalmic Vein thrombosis

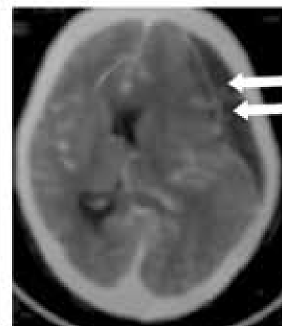

FIG 2 : Subdural hematoma in same patient

corticosteroids. Patient did not show any improvement. She died on subsequent day.

DISCUSSION

With a higher incidence to affect females, CSVT can have various etiologies such as post partum (Hypercoagulability), septic CSVT and other inflammatory, hematological disorders.

Thrombosis may involve venous or arterial territories. Clinical presentations may overlap but, there are certain differences. A venous stroke usually presents with an insidious and gradual onset of neurological deficits and the involvement of the brain does not follow a major arterial territory. Intracranial bleeding in SVT is a consequence of increased venous and capillary pressure and thus occurs more frequently than in arterial thrombotic disease (as in this patient).

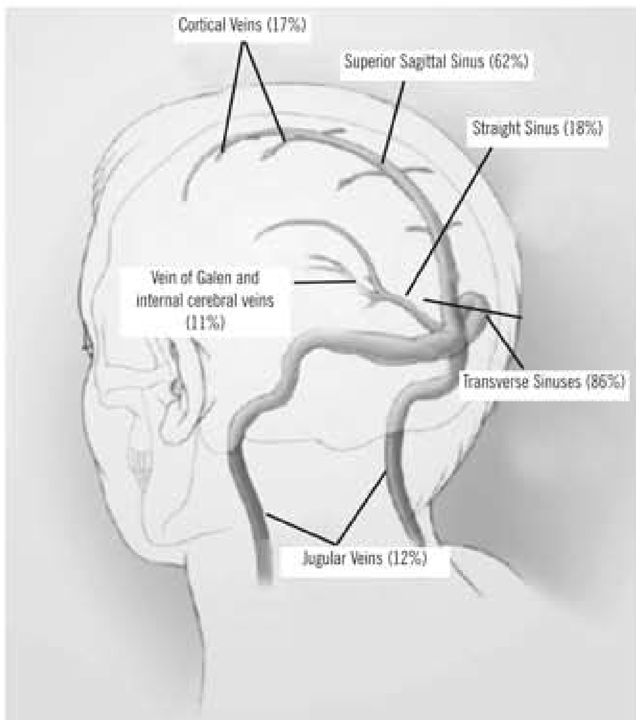

FIG 1: Different venous sinuses and their involvement in CSVT[2].

Arterial cerebral ischaemia usually is a monophasic abrupt thrombotic process and has a catastrophic outcome within few minutes to hours.

Sagital sinus is affected most commonly followed by Cavernous sinus. The lateral wall of cavernous sinus contains III, IV, first division of V and VI cranial nerves. This causes multiple cranial nerve palsies often associated with Proptosis. It is also equally important to rule out intra cranial space occupying lesion (Tumor or aneurysm), which may produce false localising sign as that of CSVT, such as III cranial nv palsy.

The poor prognostic factors for CSVT are delay in treatment for more than 48 hours and papilloedema.

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