SUBARACHNOID HEMORRHAGE: UNUSUAL MANIFESTATION OF CEREBRAL VENOUS SINUS THROMBOSIS

*V Sardana¹, D Maheshwari¹ and R K Aseri²

¹Department of Neurology, Govt. Medical College, Kota
²Department of Anaesthesia, Govt. Medical College, Kota

*Author for Correspondence

ABSTRACT
Cerebral venous thrombosis (CVT) has varied clinical and imaging manifestations that may mimic many neurological disorders and lead to frequent misdiagnoses or delay in diagnosis. The most frequent symptoms and signs are headache, vomiting, seizures, focal deficits, and papilledema. Subarachnoid hemorrhage (SAH) is a rare manifestation of CVT. We report a patient who presented with headache, generalized seizures and right lower limb monoparesis. Computerised tomography (CT) head showed cortical SAH and Magnetic Resonance (MR) venography revealed superior sagittal sinus thrombosis. The importance of cerebral venous study before going for digital substraction angiography (DSA) in spontaneous cortical SAH is emphasised.

Key Words: Cerebral Venous Thrombosis (CVT), Subarachnoid Haemorrhage (SAH)

INTRODUCTION
Cerebral venous thrombosis presents with a variety of neurological manifestations. Common clinical features include headache, focal or generalized seizures, focal neurological deficits, and intracranial hypertension (Sharma et al., 2010a). Acute subarachnoid hemorrhage (SAH) is amongst rare presentations of cerebral venous thrombosis (CVT). Acute spontaneous SAH usually indicates either ruptured aneurysm or AVM but few case reports have highlighted it as a manifestation of CVT (Panda et al., 2010; Kato et al., 2010). We report a case of CVT who presented with SAH.

CASES
A 27-year-old nonhypertensive male presented with severe generalized throbbing headache of 8 days duration with occasional vomiting. One day prior to admission he had 2 generalised tonic clonic seizures (GTCS) followed by right-sided lower limb weakness. On examination, he was afebrile with pulse 88 per minute, blood pressure 110/70 mm of mercury. He was slightly drowsy, fundus examination was normal. Right lower limb power was grade 3/5 and he had extensor planter response on the right side. There were no meningeal signs. Rest of the neurological and systemic examination was normal.

Investigation showed normal haematological and biochemical parameters. Liver function tests and thyroid functions were normal (T3-103ng/dl, T4-8.4µg/dl and TSH-3.2µIU/ml). Evaluation for procoagulant state showed prothrombin time 15 seconds (control 16 seconds), activated partial thromboplastin time 28 seconds (25-39 seconds), serum homocysteine 10.3µmol/L (4.4-10.83µmol/L), protein C 98%(70-140%) and S 92%(70-140%), antithrombin III 82%(70-130%). Antiphospholipid antibodies IgG-12 units, IgM-5 units (below 15 units) were negative, so was HIV elisa.

Noncontrast computed tomogram (figure 1) and Magnetic Resonance Imaging (MRI) revealed SAH in high parietal cortical sulci. MR angiogram did not show aneurysm or any other vascular abnormality (figure 2) but MR venogram brain revealed proximal part of superior sagittal sinus thrombosis (figure 3). The patient was given low-molecular-weight heparin (Enoxaparin 0.4 ml subcutaneously) for 7 days, later shifted to oral Accoumoner, 2 mg per day maintaining the international normalized ratio between 2 and 2.5. Short term intravenous mannitol was given along with oral naproxen 250 mg twice a day. His
sensorium normalised within few hours, and right lower limb power improved by grade 1 after 7 days. He was discharged on 9th day on oral anticoagulant.

DISCUSSION
CVT is a common disorder presenting with protean manifestations. The most frequent symptoms and signs are headache (95%), & focal seizures with or without secondary generalization (47%), focal deficits including unilateral or bilateral paresis (43%), papilledema (41%), isolated intracranial hypertension (21%) and rarely transient ischemic attack (Sharma et al., 2010a; Kimber et al., 2002). Rare atypical manifestations have been described with CVT including thunderclap headache (Mortimer et al., 2013), attacks of migraine with aura, isolated psychiatric disturbances, pulsatile tinnitus, isolated or multiple cranial nerve involvement, presenting like intracranial space occupying lesion with progressive symptoms and signs or occasionally as SAH or transient ischemic attack (Sharma et al., 2010a).
There are few case reports of SAH as rare manifestation of CVT. Normally CVT is not considered in differential diagnosis in such cases. Our patient presented with cortical SAH without basal cistern involvement. The exact cause of SAH associated with CVT is unknown but various theories have been postulated. Dural sinus thrombosis with secondary venous hypertension may lead to SAH into the subarachnoid space due to the rupture of fragile, thin-walled cortical veins (Sharma et al., 2010b).
This case emphasises to have high degree of suspicion for CVT in a case of non traumatic cortical SAH without basal cistern involvement. Diagnosing CVT early not only has therapeutic implications but also costly and invasive invagastations like DSA can be avoided in centres with limited resources. We suggest such patient should undergo MR venogram before DSA.

Summary
A young male presenting with headache, GTCS and right limb monoparesis was found to have cortical SAH on CT head and MRI brain. MR venography showed superior sagittal sinus thrombosis with normal MR angiography. SAH is a rare manifestation of CVT and should be considered in patients presenting with cortical SAH without involvement of basal cisterns.

REFERENCES
Case Report


