Research Paper

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Cerebral Venous Sinus Thrombosis-Neuropsychiatric Manifestation-A Case Report

Medical Science

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ABSTRACT

Cerebral venous sinus thrombosis (CVT) is clinically challenging and mimics many neurological conditions such as meningitis, encephalopathy, benign intracranial hypertension, and stroke. With increasing awareness, CVT cases are now being diagnosed more frequently. Newer imaging procedures have led to easier recognition of venous sinus thrombosis, offering the opportunity for early therapeutic measures. It may be difficult to diagnose it on clinical grounds alone. Headache is the most frequent symptom in patients with CVT, present in about 80% of cases. Subarachnoid hemorrhage (SAH) has been described, as the presenting event with CVT. Patients may have seizures that can be recurrent. Cranial nerve dysfunction is seen with venous sinus thrombosis. Most often it occurs within two weeks of delivery but can occur in the antenatal period also. Psychiatric disturbances are sometimes the presenting symptoms. We are presenting a postpartum patient who presented with psychiatric manifestations and later found to have transverse and sigmoid sinus thrombosis.

Introduction:

CVT wa***s*** first described in 1962.[1] CVT during pregnancy and puerperium is 1 in 2500 and is increasing in the developing countries.70% of CVT occurs in peurperium.It involves spontaneous thrombosis of cerebral veins and sinuses. Other conditions that mimic CVT include eclampsia, cerebral arterial thrombosis and cerebral hemorrhage. The prognosis of CVT is worse in elderly patients. The shorter the history the more likely is the presence of focal signs. Sixth cranial nerve palsy usually manifests as false localizing sign. Psychiatric manifestations like depression are common in CVT especially when they are associated with SLE. Platelets and fibrinogen levels are usually elevated increased. EEG may show slowing of cortical activity. Non enhanced CT Scan of Brain sometimes may be entirely normal. Contrast CT and MRI usually reveal thrombosis. Here we are presenting a postpartum patient who presented with psychiatric manifestations and later found to have transverse and sigmoid sinus thrombosis.

Case study:

A 24 year old postnatal patient delivered 6 days prior to admission was admitted to the Gynecology Department with sleeplessness, headache, irrelevant talk ,violent behaviour along with lack of insight. No history of seizures and fever. Initially patient was referred to Psychiatrist. Psychiatrist opined the case as puerperal psychosis. The patient was treated with Haloperidol. Initially the diagnosis of acute CNS infection was thought of as the CT Scan does not reveal any abnormality.

On examination the patient showed the following features: Disoriented, confused, irritable, restless, EOM full, pupils normal, no and all four limbs were rigid. Waxy flexibility was present. Echolalia and Palilalia was present.DTR were normal.-Plantars bilateral extensor.

This patient was admitted to intensive medical care unit.MRI brain with MR Angiogram and MR Venogram was done showing distended left transverse and sigmoid sinus with hyperintensities. Partial thrombus in left transverse and sigmoid sinus, acute infarct in splenium of corpus callosum was noted**. (Figure-1)** CSF analysis was done which was normal. Routine blood and serology for febrile illness investigations and Dengue serology were negative.

This patient was heparinised and later started on oral anticoagulants along with antibiotics, anti edema measures ,steroids and hydrated adequately with IV Fluids. She is responding well and now recovering.

Discussion:

This patient was in post partum state and there was no h/o antecedent infection or underlying illness. She presented with encephalopathy, irritable, disoriented, waxy flexibility and rigidity of all four limbs. She predominantly had negative symptoms and lacked of meaningful response. She had echolalia and palilalia later. The patient had clinical features suggestive of Catatonia. In this case report, CVT occurs in Puerperium which is due to thromboplastin released from placenta, anaemia, increased fibrinogen levels, restricted water intake, multipara, folate deficiency and hyperhomocysteinemia and prothrombotic state.

The prognosis of CVT is worse in elderly subjects.[2]The shorter the history the more likely is the presence of focal signs. Sixth nerve palsy usually manifests as a false localizing sign, but it may be the result of extension of thrombus into the inferior petrosal sinus. Subarachnoid Hemorrhage (SAH) has been described, as the presenting event with CVT. CVT should be considered in the workup of SAH, especially when the basilar cisterns are not involved.[3]Patients with lateral sinus thrombosis may present with a pseudo tumor cerebri-like syndrome. Farb et al found that 27 of 29 patients with idiopathic intracranial hypertension had bilateral sinovenousstenosis.[4]

This patient presented with catatonia which is manifested by anyone of following Motor immobility, Excessive motor activity, Negativity or mutism, Peculiarities of voluntary movement, Echolalia or Echopraxia.Motoric immobility may be manifested by catalepsy, waxy flexibility or stupor. Excessive motor activity is apparently purposeful &not influenced by external stimuli. There may be extreme negativism that is manifested by resistance to all instructions or maintenance of a rigid posture against attempts to be moved. Peculiarities of voluntary movement are manifested by the voluntary assumption of inappropriate or bizarre posture or by prominent grimacing. Echolalia and Echopraxia will occur. Catatonia is a syndrome and can be produced by a variety of medical conditions and is common in postpartum women.

The confirmation of diagnosis of dural venous sinus thrombosis is reliant on demonstration of the thrombus by neuroimaging. Non-invasive imaging by magnetic resonance venography is used in preference to cerebral angiography, although CT contrast venography remains popular in some centers, and may be a superior technique in certain cases. The 'typical' empty delta sign seen on contrast CT scanning is present only in 20% of cases. This is seen on axial CT images, and represents enhancement with intravenous contrast of the wall of the posterior sagittal

sinus, outlining the clot within the lumen anteriorly. In most centers however, MRV is usually the investigation of choice for demonstrating dural sinus thrombosis, as it may exclude significant alternative diagnoses and will also demonstrate cerebral venous infarction complicating cerebral venous occlusion. Difficulties in diagnosis arise due to unusual normal anatomical variants and cases where there is near occlusion of the venous sinus.

Lumbar puncture (LP) is usually not helpful in establishing the diagnosis of dural sinus thrombosis, although abnormalities are commonly found.[5]It may show raised pressure, pleocytosis, increased red cells or elevated CSF protein. Conversely, LP may be required in severely ill patients with venous sinus thrombosis to exclude other treatable diagnoses within relevant clinical settings such as subarachnoid hemorrhage and bacterial meningitis. Also, in patients with an isolated intracranial hypertension (BIH) presentation, an abnormal LP may suggest the diagnosis. Cerebal angiogram with late venous view is the gold standard.

The priority of treatment in the acute phase is to stabilize the patient's condition and to prevent or reverse cerebral herniation, which may require the administration of intravenous mannitol, surgical removal of the hemorrhagic infarct, or decompressive hemicraniectomy. Possible causes of sinus thrombosis, such as infections, should be searched for and treated. The most obvious treatment option is anticoagulation with heparin to arrest the thrombotic process and to prevent pulmonary embolism, which may complicate sinus thrombosis. However, anticoagulant treatment has raised much controversy because of the tendency of venous infarcts to become hemorrhagic. Most neurologists now start treatment with heparin as soon as the diagnosis is confirmed, even in the presence of hemorrhagic infarcts.

Conclusion:

CVT is common is postpartum women especially in India and usually presents with seizures, focal neurological deficits. Our patient presenting with psychiatric symptoms and catatonia is very rare. Success in managing lies in identifying all the contributory causes and correcting all of them giving excellent outcome almost always. Clinical observations based on case series and sharing of such information alone are the means to arrive at a consensus in diagnosis and management.

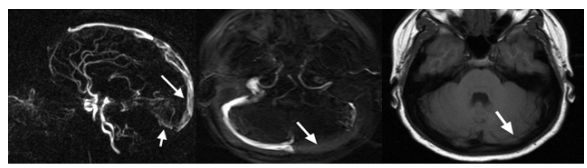

Figure-1: Images showing sigmoid and transverse sinus thrombosis

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