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A case of subarachnoid haemorrhage

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Abstract

Subarachnoid haemorrhage (SAH) is most often due to aneurysmal rupture. Other causes account for a small percentage. Cerebral venous thrombosis (CVT) can be difficult to diagnose because of its wide spectrum of clinical manifestations. Its diagnosis can be further complicated when patients initially present with acute SAH. We report a case of Dural venous sinus thrombosis with SAH. A 46-year-old man presented with a severe headache to the emergency department. Computerized tomography (CT) scan head showed subarachnoid hemorrhage. Magnetic resonance imaging (MRI) suggested fronto-parietal hemorrhage. No aneurysm was detected on magnetic resonance angiography (MRA). MRV revealed distal superior sagittal sinus and right transverse and sigmoid sinus thrombosis. . The patient improved with anticoagulant therapy. This case highlights the fact that SAH may reveal a CVT, and emphasizes on the inclusion of MRV in the diagnostic workup of SAH, particularly in cases in which aneurysm is not detected.

Keywords: MRI, CVT, CT.

Introduction

Central venous thrombosis is a difficult diagnosis with the complexities associated with it . Subarachnoid hemorrhage usually is associated with a ruptured aneurysm CVT associated with subarachnoid hemorrhage is rare. Usuallycvt is generally not considered in workup of SAH. We present a case of 46 year old male patient with superior sagittal sinus thrombosis who presented initially with severe head ache, after therapy with low

molecular weight heparin and other supportive care, the patient improved .

Case report

A 46 year old male patient presented to casualty with severe rapidly progressive head ache associated with nausea and vomiting since 1 day .

He also had a history of 1 episode of seizure at his residence the before night. Patient had last alcohol binge 3 days ago. Patient had no complaints of vomiting, fever and no other significant history was noted. On general physical examination patient was conscious oriented, mild dehydration was noted and rest of the examination was normal. System examination was unremarkable. Patient was started with a intra venous line ,anti epileptic and other supportive treatment was given . Patient was taken for CT scan and it showed subarachnoid haemorrhage. Patient was then shifted to MRI with MRA and MRV .No aneurysm was detected on magnetic resonance angiography (MRA) . MRV revealed distal superior sagittal sinus and right transverse and sigmoid sinus thrombosis. Coagulation profile including prothrombin time , activated prothrombin time, anticardiolipin antibody titre, antiphospholipid antibody titre, antithrombin III, homocysteine titre, and levels of protein C and S, , and fibrinogen were all within normal limits. Patient was started on anti oedema measures and anti epileptics and low molecular weight heparin. The patient was moved out from intensive care unit after 5 days of admission and his condition stabilised. Patient was discharged after 8 days of admission. Patient is on regular follow up.

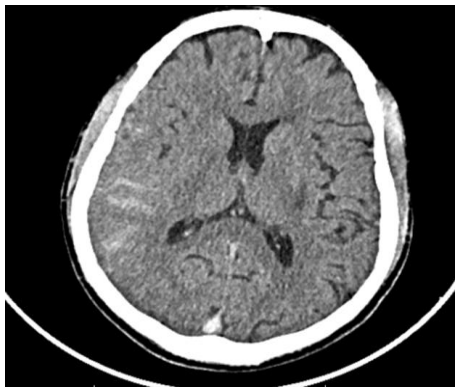

Figure 1: CT brain axial sextion shows subarachnoid hemorrhage in right frontal , parietal and temporal lobes

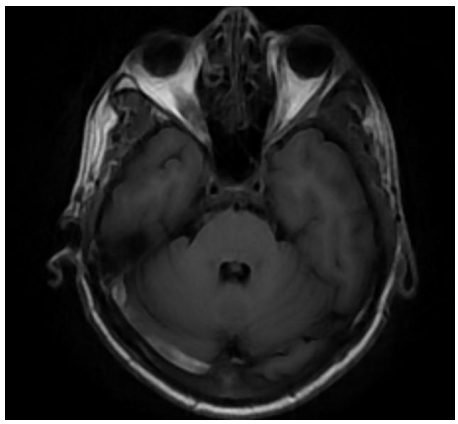

Figure 2: Axial T1W image shows loss of normal signal void involving the distal superior sagittal sinus, right transverse and sigmoid sinuses extending to proximal ipsilateral internal jugular vein

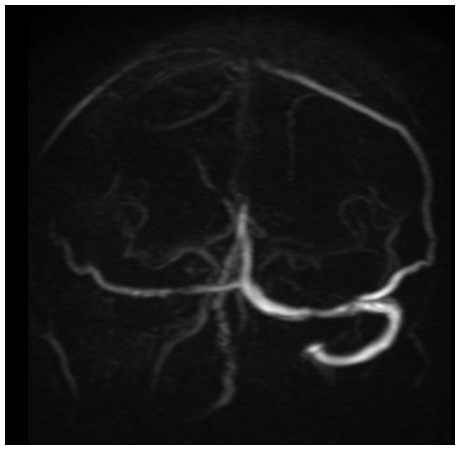

Figure 3: MRV Shows Thrombosis Involving the Distal Superior Sagittal Sinus, Right Transverse and Sigmoid Sinuses Extending To the Right Proximal Ipsilateral Internal Jugular Vein

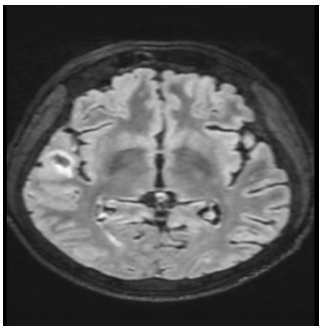

Figure 4: MRI T2 flair axial image shows hypointense area with surrounding edema and effacement of adjacent sulcal spaces in right anterior temporal lobe.

Discussion

SAH is related to ruptured aneurysm in 70-80 % of cases and to non aneurismal perimesencephalic haemorrhage in roughly 10%; the remaining 5-10% are related to a variety of rare conditions .usually workup for CVT is not done as a cause of SAH .The exact cause of SAH associated with CVT is unknown. [1] Sinus thrombosis may produce dilatation of the cortical veins, which may rupture and bleed into the subarachnoid space and produce an SAH.[3] A similar mechanism has been proposed to explain the presence of extravagated blood confined to the prepontine or inter peduncular cistern in non aneurismal perimesencephalic haemorrhage.[2] The clinical presentation of CVT ranges from head ache to seizures to coma , majority of the cases are characterised by focal neurological deficit and head ache and nearly 30 percent of the cases present with seizure . Often CVT workup is overlooked in a case of SAH because the association of the both entities is rare. CVT is also known to be associated with head ache in cases where the CT brain was normal .Here we had a case young male presenting to emergency with a history of rapid pulsatile head ache and seizure the day before , this emphasizes the need for imaging in a young individual with severe head ache . The presence of acute SAH of the convexity, especially when basal cisterns are spared , should prompt dedicated vascular imaging of both intracranial arteries and dural sinuses. In some cases unless CVT is systematically considered in the diagnostic workup of SAH, it could remain undiagnosed when non invasive diagnostic techniques are used . once the diagnosis of CVT is confirmed appropriate anticoagulant therapy is initiated and usually patients show good clinical improvement . SAH can be attributed to CVT , once the screening for SAH doesn't reveal any other potential cause.

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