HEADACHE AS A SYMPTOM IN CEREBRAL VENOUS SINUS THROMBOSIS

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ABSTRACT

Objective: Headache is a very common symptom in patients with venous sinus thrombosis. The purpose of this article is to emphasize on the importance of this symptom in patients with venous sinus thrombosis in order to help in early diagnosis and management of such patients.

Materials and methods: The study was a cross sectional study conducted in Peshawar institute of medical sciences from 1st august 2014 to 1st april 2015 during which 105 cases of MRV (Magnetic resonance venogaphy) were reported. In patients with venous sinus thrombosis on MRV we specifically asked about history of headache in order to assess the frequency of headache in such patients.

RESULTS: History of headache was present in 82 patients (90%), who had venous sinus thrombosis (91 out of 105) on MRV.

Conclusion: Headache is a very common symptom in patients with venous sinus thrombosis and in appropriate clinical setting MRV should be done in such patients to exclude the presence of the disease.

Keywords: Headache, Venous sinus thrombosis, MRV.

INTRODUCTION:

Cerebral venous sinus thrombosis (CVT) is a challenging condition because of its variability of clinical symptoms and signs. It is very often unrecognized at initial presentation. All age groups can be affected. Large sinuses such as the superior sagittal sinus are most frequently involved. CVT is more common than previously thought and it is recognized as a non-septic disorder with a wide spectrum of clinical presentations, numerous causes, and usually a favourable outcome with a low mortality rate[1].CVT represents approximately 0.5% of all stroke cases worldwide. Headache, focal deficits and seizures are the most frequent initial clinical manifestations, representing 89%, 50%, and 35% of appearances, respectively. Magnetic resonance imaging (MRI) in combination with magnetic resonance venography has proved to have the highest sensitivity and specificity in establishing a diagnosis[2].In another study conducted by Ferro JM et al headache was reported in 90% of patients with CVT.[3]The quality of headache (reported in 72 patients) was reported as throbbing, band like, thunderclap , and other (pounding, exploding, stabbing, etc.) . The location of headache (reported in 101 patients) was reported as unilateral (one side of head) 48 (37%), localized (frontal, temporal, occipital, and neck) 25 (19%), and diffuse (whole head) 28 (20%)[4]. A high index of suspicion is absolutely essential to diagnose cerebral venous thrombosis in patients with headache. Diagnosis of CVT should be considered in all young and middle-aged patients with recent onset unusual headache, with stroke-like symptoms, especially with seizures, more so when it occurs in the absence of the usual risk factors for arterial thrombosis[7].In this study we emphasize on the importance of headache as a symptom especially in young patients who are actually suffering from venous sinus thrombosis but they end up with physicians/psychiatrists receiving unnecessary medication for decades.

MATERIALS AND METHODS:

This was a cross sectional study conducted Between august 2014-april 2015 ,105 cases of MRV were done out of which there were 91 cases in which venous sinus thrombosis was present as reported by a senior consultant radiologists having experience of more than 10 years in MRI reporting . In all these positive cases history of headache was specifically asked which was present in 82 patients. Those cases which were reported as normal are not included in this study.

RESULTS:

Venous sinus thrombosis appears on MRI in the form of stenosis, filling defects, or complete non visualization of the effected sinus. In some patients the accompanied MRI brain may show complementary findings in the form of infarcts, which can be heamorhagic and are usually bilateral and found in non

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arterial territories. But in some cases MRI brain can be completely normal. In our study total of 105 patients were referred for MRV during the study duration out of which 91 patients were found to have venous sinus thrombosis. All such cases which were reported as having venous sinus thrombosis were asked about the history of headache ,which was present in 90 % of the patients. Majority of the patients who were affected by the disease were young (70%) between the age group of 18 – 45 years (fig 4) with males being more commonly effected (58%) fig 5.

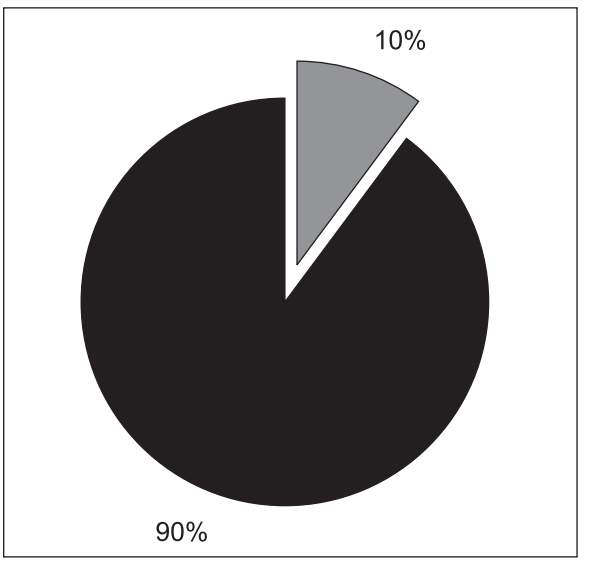

Figure 1: pie chart showing prevalence of headache in 90% patients with venous sinus thrombosis.

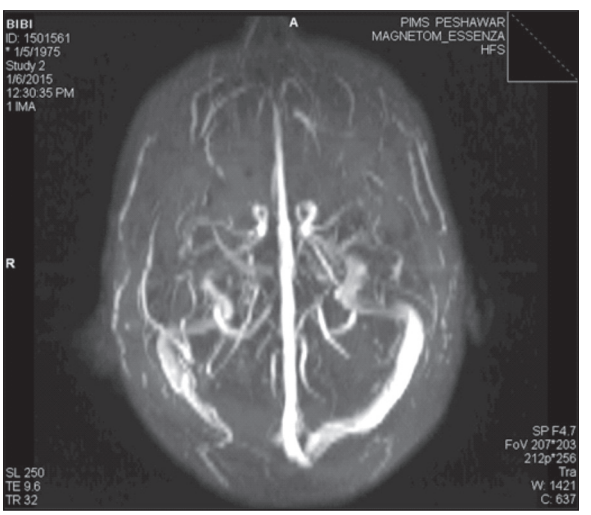

Figure 2: Axial T2 weighted MRV image showing filling defect in right transverse sinus.

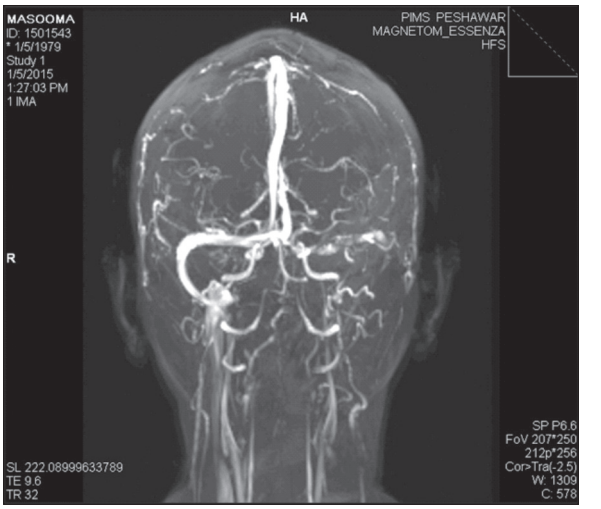

Figure 3: coronal T2 weighted MRV image showing complete thrombosis of left transverse and sigmoid sinuses.

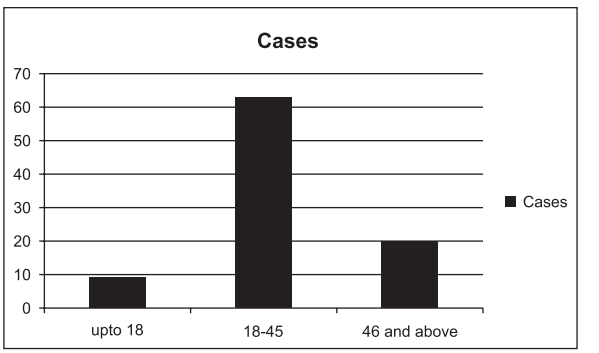

Figure 4: Graph showing the age distribution of the patients .

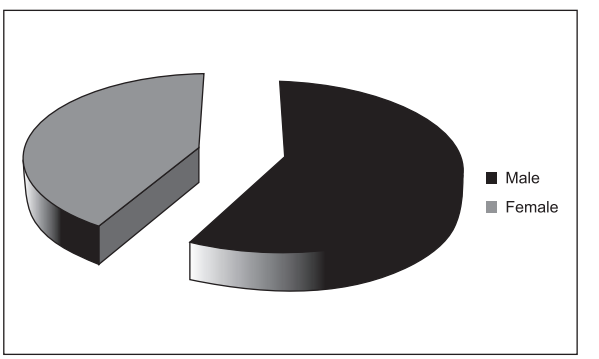

Figure 5: Pie chart showing sex distribution of the patients (58% were male and 42% were female).

DISCUSSION:

Cerebral venous thrombosis, including thrombosis of cerebral veins and major dural sinuses, is an uncommon disorder in the general population. However, it has a higher frequency among patients younger than 40 years of age, patients with thrombophilia, and women who are pregnant or receiving hormonal contraceptive therapy. Annual incidence is estimated to be 3 to 4 cases per million. The incidence of cerebral venous thrombosis increases to 12 cases per 100 000 deliveries in pregnant women. Cerebral venous thrombosis occurs 3 times as frequently in women, likely because of increased risk during pregnancy and with hormonal contraceptive use.[6] Although some patients with CVT present with catastrophic complications, such as a stroke syndrome with focal neurologic signs or coma, many present with mild or nonspecific symptoms, such as isolated intracranial hypertension, presenting with headache and papilledema. [8]The most frequent but least specific symptom of sinus thrombosis is severe headache, which is present in more than 90 percent of adult patients. It usually increases gradually over a couple of days but can also start in a split second, mimicking a subarachnoid hemorrhage.To understand the symptoms and signs of sinus thrombosis, two different mechanisms should be distinguished: thrombosis of the cerebral veins, with local effects caused by venous obstruction, and thrombosis of the major sinuses which causes intracranial hypertension. In the majority of patients, these two processes occur simultaneously.[9] Isolated headache can be the only clinical sign of CVT in the absence of intracranial hypertension, SAH, meningitis or intracerebral lesion. In such cases CVT mostly involves a lateral sinus, either alone or in association with other sinuses. The headache is usually progressive over a few days, severe, persistent, unilateral and throbbing, but a few patients have sudden onset or even a thunderclap headache. Plain CT scan frequently shows a hyperdense sinus, but it is normal in 40% of patients. This points to a need for MRI/MRV in all patients with recent headache—progressive or thunderclap—with normal CT scan and CSF examination.[10]

CONCLUSION:

Headache attributed to CVT is sometimes misleading, mimicking migraine, subarachnoid haemorrhage, CSF hypertension or hypotension. We then conclude that these headache features, especially in the presence of underlying prothrombotic conditions, should lead clinicians to consider the diagnosis of CVT and to require appropriate neuroimaging examinations.

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