



A CLINICAL STUDY OF CEREBRAL VENOUS SINUS THROMBUS IN MEN IN GMC, KADAPA

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ABSTRACT **Background:** Cerebral venous sinus thrombus is an important cause of stroke in both males and females with more female preponderance. Its varied clinical presentation makes it a diagnostic challenge. Even though its incidence is more among females, strong suspicion of cerebral venous sinus thrombus is also necessary to diagnose it among males. **Method:** This study comprised of 30 male patients diagnosed as cerebral venous thrombus from June 2017 to June 2019 in the Department of General Medicine in Government medical College, Kadapa. **Results:** The mean age of the patients diagnosed with Cerebral venous sinus thrombus was 34 years. In clinical presentation head ache was seen in 100% and seizures were seen in 73% cases. Smoking and alcohol as risk factors were seen in 82% of cases. Thrombus involving the Superior sagittal sinus was seen in 60% of cases. **Conclusions:** This study emphasizes that - Suspect cerebral venous sinus thrombus in male patients also even with head ache as presenting symptom since head ache is the most common symptom as was concluded in our study. Magnetic Resonance Imaging and Magnetic Resonance Venography are the diagnostic procedures of choice. Superior sagittal sinus was the most common site of thrombus causing Cerebral venous sinus thrombus.

KEYWORDS :

INTRODUCTION

Cerebral venous thrombosis (CVT), is the thrombosis of the intracranial veins or dural sinuses. It is a relatively rare disorder, affecting about 5 persons per million per year with huge regional variations. It accounts for less than 1% of all strokes. It has differential geographic distribution with a higher incidence in the Asian countries. Before the availability of computed tomography (CT) and magnetic resonance imaging (MRI), CVT was considered to be a disorder of infectious etiology that usually results in bilateral or alternating focal neurological deficits, which was associated with seizures and coma and usually leading to death. The widespread availability of CT and MRI scans has totally changed our knowledge about the disease and on its wide clinical spectrum. CVT has been a disease associated with a considerable morbidity in the general population, more so in females during their post partum period and with a history of intake of OCP. But recent studies show an increasing incidence in males also.

METHODS AND MATERIALS

STUDY DESIGN:

30 male Patients with CVT confirmed by imaging studies enrolled in the Dept. of General Medicine from June 2017 to June 2019 were included in this study. During the period of admission, patients were evaluated with demographic profile, detailed history with special importance to risk factors like smoking, alcohol consumption including binge alcohol intake prior to onset of symptoms, substance abuse and clinical examination for various neurological presentations.

Inclusion Criteria:

30 Patients included in this study were all adult male patients with features of CVT confirmed by CT/MRI/MRV brain.

Exclusion Criteria :

1. All female patients with CVT.
2. All cases of CVT due to Trauma and neoplastic diseases.
3. Children less than 13 years.

Informed written consent was obtained for all patients.

RESULTS

Statistical analysis of data was analyzed using SPSS 17.0 Software. Mean for the values were calculated. Variables were compared using Chi-square test a $p < 0.05$ was considered statistically significant. Headache was the most common clinical manifestation noted in our patients that all of our patients (100%) presented with headache.

Diplopia was present in 13% of patients. This was due to either lateral rectus weakness due to raised ICT or due to involvement of multiple cranial nerves in cavernous sinus. Papilledema was present in 70% of the patients. Seizures were present in 73% of the patients. Focal motor deficits in the form of hemiparesis or monoparesis was present in 26% of the patients. Altered sensorium was one of the presenting feature in 13% of the patients.

Incidence of various clinical manifestations

Clinical presentation	No. of patients	Percentage %
Headache	30	100
Papilledema	21	70
Seizures	21	73
Cranial nerve involvement	4	13
Motor deficits	8	26
Altered sensorium	4	13

The most common sinus involved is the superior sagittal sinus 18(60%) patients presented with superior sagittal sinus involvement either alone or in combination. Transverse sinus (TS) involvement is present in 13 patients (42%) together along with other sinus involvement. Mastoiditis is present in 3 patients (10%). All patients with mastoiditis have associated transverse sinus thrombosis. This study postulates a strong association between the two.

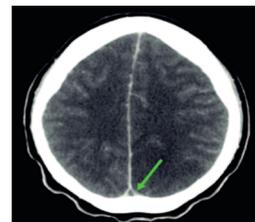


Fig: CT brain with contrast and the arrow showing empty delta sign.

INCIDENCE OF SINUS INVOLVEMENT

Parameters	SSS	TS	SG	HEMARRAGE
Number of patients	18	13	7	9
Percentage %	60	42	23	30

Abuse with Alcohol and smoking were seen in 26(82%) patients. Mean age of the patients is 34 years.

DISCUSSION

Headache and seizures have been the most common manifestation of CVT and in its comparison to previous studies in literature. Headache caused by intracranial hypertension from CVT is typically characterized by severe, dull, generalized head pain that worsens with Valsalva manoeuvres and with recumbency. Because of non specific presentations, CVT can be a diagnostic challenge. For confirming the diagnosis in patients with clinically suspected CVT, it is very important to demonstrate the absence of flow and presence of intra luminal venous thrombus by CT or MRI. CT head, although being the first investigation to be performed, can be normal in around 30% of CVT cases. MRI in combination with magnetic resonance (MR) venography is the most sensitive imaging method for demonstrating the thrombus and the occluded dural sinus or vein. Transcranial Doppler ultrasonography and transcranial power or color Doppler imaging, with or without the use of contrast, are noninvasive techniques that have potential utility for the diagnosis of CVT and for follow-up.

Current guidelines from the American Heart Association/American Stroke Association recommend obtaining routine blood studies consisting of a complete blood count, chemistry panel, prothrombin time, and activated partial thromboplastin time for patients with suspected CVT.

From the results obtained in this study, alcoholism, which is very much common in this part of Kadapa, seems to be cause for the higher incidence of CVT in males. Heavy alcohol consumption is associated with stroke, the mechanisms of which are unclear. Some studies point towards dehydration and resultant hyperviscosity of blood induced by heavy alcohol consumption as a possible mechanism for thrombosis. The correlations of the various studies quoted from the literature, makes it plausible to consider folate deficiency in alcoholics with the resultant hyper homocystinemia as the cause for the hyper coagulability.

Further, in our study group which includes people who are manual labourers, belonging to low socioeconomic class, pre-existent nutritional deficiency might also contribute to the clinical scenario. Hence these nutritional deficiencies, which are amenable for correction, if sought earlier and corrected in the high risk group, might decrease the incidence of this catastrophic disease. Studies are also needed in the context of treatment with folic acid, methyl cobalamine, and pyridoxine in the acute setting of CVT.

SITE OF CVT IN VARIOUS STUDIES

CONCLUSION

This study emphasizes that - Suspect cerebral venous sinus thrombus in male patients also even with head ache as presenting symptom since head ache is the most common symptom as was concluded in our study. Magnetic Resonance Imaging and Magnetic Resonance Venography are the diagnostic procedures of choice. Superior sagittal sinus was the most common site of thrombus causing Cerebral venous sinus thrombus.

REFERENCES

- 1) Saposnik G, Barinagarrementeria F, Brown RD Jr, et al. Diagnosis and management of cerebral venous thrombosis: a statement for health care professionals from the American Heart Association/American Stroke Association. *Stroke* 2011; 42:1158.
- 2) Chu K, Kang DW, Yoon BW, Roh JK. Diffusion weighted magnetic resonance in cerebral venous thrombosis. *Arch Neurol* 2001; 58:1569.
- 3) Ferro JM, Morgado C, Sousa R, Canhão P. Interobserver agreement in the magnetic resonance location of cerebral vein and dural sinus thrombosis. *Eur J Neurol* 2007; 14:353.
- 4) Masuhr F, Mehraein S, Einhaupl K. Cerebral venous and sinus thrombosis. *J Neurol* 2004; 251:11-23.
- 5) Bousser MG. Cerebral venous thrombosis: Diagnosis and management. *J Neurol* 2004; 247:252-8.
- 6) Ferro JM, Canhão P. Cerebral venous sinus thrombosis: update on diagnosis and management. *Current cardiology reports*. 2014 Sep 1; 16(9):1-0.
- 7) Gorelick PB. Alcohol and stroke. *Stroke* 1987; 18:268-71
- 8) Bousser MG, Russell RR. Cerebral venous thrombosis. In: *Major Problems in Neurology*, Warlow CP, Van Gijn J (Eds), WB Saunders, London 1997. p.27, 104. Chu K, Kang DW, Yoon BW, Roh JK. Diffusion weighted magnetic resonance in cerebral venous thrombosis. *Arch Neurol* 2001; 58:1569.
- 9) Becker G, Bogdahn U, Gehlberg C, et al. Transcranial color-coded real-time sonography of intracranial veins. Normal values of blood flow velocities and findings in superior sagittal sinus thrombosis. *J Neuro imaging* 1995; 5:87
- 10) Stam J et al. The treatment of cerebral venous sinus thrombosis. *Adv Neurol*, 2003; 92:233-40.
- 11) Cantu C, Alonso E, Jara A, Martvnez L, Rvos C, Fernandez Mde L, et al. Hyperhomocysteinemia, low folate and vitamin B12 concentrations and methylene tetrahydrofolate reductase mutation in cerebral venous thrombosis. *Stroke* 2004; 35:1790-4.