Original Research Article

Clinical Profile, etiology and Outcome in cerebral venous sinus thrombosis

Ramrao Mundhe[1], Maroti Karale[2*], Vivek Ambhore[3]

[1]Assistant Professor, [2]Associate Professor, [3]Junior Resident, Department of Medicine, Government, medical college, Latur, Maharashtra, INDIA.
Email: drmskarale13gmail.com

Abstract

Background: Cerebral venous sinus thrombosis (CVST) is an uncommon condition, with extremely diverse clinical features, predisposing factors, brain imaging findings, and outcome **Aims and Objectives:** To study Clinical Profile, etiology and Outcome in cerebral venous sinus thrombosis **Methodology:** This was a cross-sectional study carried out at Government medical college, Latur in the suspected patients with cerebral venous sinus thrombosis in 6 month duration from February 2018 to July 2018 were screened by CT scan or MRI scan as per the indication and those patients who are showing the features of cerebral venous sinus thrombosis were included into the study, so during the six month period there were 39 patients were diagnosed. The findings were entered into excel sheets and analyzed by excel for windows 10. **Result:** In our study we have seen that the majority of the patients were in the age group of 40-50 were 30.77%, 30-40, 50-60, Were - 23.08%, 20-30 were-12.82%, >60 were 10.25%. The majority of the patients were Male were 58.97% and Female were 41.02%. The most common symptoms were Headache - 95%, Convulsions– 80%, Altered sensorium-65%, Focal deficits-55%, Fever- 45%. The most common site were Superior sagittal sinus-60%, Transverse sinus-50%, Sigmoid sinus-30%, Straight sinus- 7.5 %, Cavernous sinus and Cortical vein were 5% The most common associated factors were H/o Infection were-85%, Dehydration-65% Pregnancy induced hypertension-42%, Hyperhomocysteinemia-13%, Puerperal -9%, H/o Diabetes- 4%. The majority of the patients were Recovered - 64.10% Recovered with disability -23.08%, Death occurred in 12.82%. **Conclusion:** It can be concluded from our study that majority of the patients were in the age group of the majority of the patients were in the age group of 40-50. The majority of the patients were Male. The most common site were Superior sagittal sinus, Transverse sinus. The majority of the patients were Recovered, Recovered with disability Death occurred in 12.82%.

Key Word: Cerebral venous sinus thrombosis (CVST), Hyperhomocysteinemia, Superior sagittal sinus.

***Address for Correspondence:**
Dr. Karale M. S, Second floor, Department of Medicine, Government, medical college, Latur, Maharashtra, INDIA.
Email: drmskarale13gmail.com

Received Date: 10/01/2019 Revised Date: 22/02/2019 Accepted Date: 13/03/2019
DOI: https://doi.org/10.26611/1021934

Access this article online	
Quick Response Code:	Website: www.medpulse.in
	Accessed Date: 16 March 2019

INTRODUCTION

Cerebral venous sinus thrombosis (CVST) is an uncommon condition, with extremely diverse clinical features, predisposing factors, brain imaging findings, and outcome[1]. It is frequently unrecognized type of stroke that affects approximately 5 people per million annually and accounts for 0.5% to 1% of all strokes [2]. It is one of the common causes of young stroke in India,[3] about 20% in people aged 40 years or less[4]. Depending on the site, size, duration, and rapidity of development of thrombus, it can be present as seizure, space occupying lesion, benign intracranial hypertension, subarachnoid haemorrhage, unexplained loss of consciousness, or meningoencephalitis[5]. CVST most commonly involves superior sagittal sinus (72%) followed by lateral sinus (70%), in 30 to 40% of cases more than one sinus is involved[6]. The diagnosis of CVST requires high index of suspicion because of its varied clinical presentations. CVT forms a distinct subgroup of cerebrovascular disease in India and is a leading cause of mortality in women of reproductive age group[3]. Neuro-imaging is the cornerstone in the diagnosis of cerebral venous sinus

How to cite this article: Ramrao Mundhe, Maroti Karale, Vivek Ambhore. Clinical Profile, etiology and Outcome in cerebral venous sinus thrombosis. *MedPulse International Journal of Medicine*. March 2019; 9(3): 171-173. https://www.medpulse.in/Medicine/

thrombosis. Imaging modalities of choice in CVST are CT scan and MRI with MR venogram. CT scan may be normal in 15-30% cases but MRI with MRV is almost100% diagnostic[2] after introduction of heparin in treatment of CVT mortality has come down significantly and most of the recent studies[7] reporting mortality < 20% compared to earlier studies reporting mortality between 30-50%. So in our study Clinical Profile, etiology and Outcome in cerebral venous sinus thrombosis

METHODOLOGY

This was a cross-sectional study carried out at Govt Medical college Latur in the suspected patients with cerebral venous sinus thrombosis in the six month duration from February 2018 to July 2018 were screened by CT scan or MRI scan as per the indication and those patients who are showing the features of cerebral venous sinus thrombosis were included into the study, so during the six month period there were 39 patients were diagnosed, all necessary details of the patients like age , sex, clinical features , associated factors outcome were noted. The findings were entered into excel sheets and analyzed by excel for windows 10.

RESULT

Table 1: Distribution of the patients as per the age

Age	No.	Percentage (%)
20-30	5	12.82
30-40	9	23.08
40-50	12	30.77
50-60	9	23.08
>60	4	10.25
Total	39	100.00

The majority of the patients were in the age group of 40-50 were 30.77%, 30-40, 50-60 Were - 23.08%, 20-30 were-12.82%, >60 were 10.25%.

Table 2: Distribution of the patients as per the sex

Sex	No.	Percentage (%)
Male	**23**	58.97
Female	16	41.02
Total	39	100.00

The majority of the patients were Male were 58.97% and Female were 41.02%

Table 3: Distribution of the patients as per the symptoms

Symptoms	No.	Percentage (%)
Headache	37	95
Convulsions	31	80
Altered sensorium	25	65
Focal deficits	20	55
Fever	16	45

The most common symptoms were Headache - 95%, Convulsions – 80%, Altered sensorium-65%, Focal deficits-55%, Fever- 45%.

Table 4: distribution as per the Involvement of site

Site	No.	Percentage (%)
Superior sagittal sinus	24	60
Transverse sinus	20	50
Straight sinus	3	7.5
Sigmoid sinus	12	30
Cavernous sinus	2	5
Cortical vein	2	5
Internal jugular vein	1	2.5

The most common site were Superior sagittal sinus-60%, Transverse sinus-50%, Sigmoid sinus-30%, Straight sinus- 7.5 %, Cavernous sinus and Cortical vein were 5%

Table 5: Distribution of the patients as per the associated factors

Associated factors	No.	Percentage (%)
H/o Infection	33	85%
Dehydration	25	65%
Pregnancy induced hypertension	16	42%
Hyperhomocysteinemia	5	13%
Puerperal	4	9%
H/o Diabetes	2	4%

The most common associated factors were H/o Infection were -85%, Dehydration-65% Pregnancy induced hypertension -42%, Hyperhomocysteinemia- 13%, Puerperal -9%, H/o Diabetes- 4%

Table 6: Distribution of the patients as per the outcome

Outcome	No.	Percentage(%)
Recovered	25	64.10
Recovered with disability	9	23.08
Death	5	12.82

The majority of the patients were Recovered - 64.10%, Recovered with disability -23.08%, Death occurred in 12.82%.

DISCUSSION

Cerebral venous sinus thrombosis (CVT) has been recognized in the early part of the nineteenth century but still remains a diagnostic and therapeutic challenge for the clinician because of varying and misleading clinical presentation of this condition. It forms a distinct subgroup of cerebrovascular disease and is one of the commonest causes of stroke in young people in India.[9] Though earlier studies have reported higher mortality, recent studies have reported lesser mortality due to earlier diagnosis, increased awareness and management. Cross *et al* noted "usually recovery is rapid and complete, if the patient survives acute episode".[10] Three fourth of cases of cerebral thrombosis in pregnancy and puerperium reported by him, survived with good recovery. Although it may present with a variety of signs and symptoms, headache is the most frequent and often the earliest manifestation.[11] The diagnosis of cerebral venous sinus thrombosis requires high index of suspicion.[12] Computed tomography (CT) of brain show direct or indirect signs of cerebral venous thrombosis. It may be normal in 10% of

patients.[13] In such cases advanced neurological diagnostic like magnetic resonance imaging with venography is necessary to confirm cerebral venous thrombosis, but it is not always readily available in many hospitals. It has been found that early diagnosis of cerebral venous thrombosis is essential because early treatment may prevent morbidity and may even be life-saving. Cerebral sinus venous thrombosis is considered to be a medical emergency, mode of onset highly variable, and spectrum of its clinical manifestations is extremely wide.[14] In our study we have seen that the majority of the patients were in the age group of 40-50 were 30.77%, 30-40, 50-60, Were - 23.08%, 20-30 were-12.82%, >60 were 10.25%. The majority of the patients were Male were 58.97% and Female were 41.02%. The most common symptoms were Headache - 95%, Convulsions – 80%, Altered sensorium-65%, Focal deficits-55%, Fever- 45%. The most common site were Superior sagittal sinus-60%, Transverse sinus-50%, Sigmoid sinus-30%, Straight sinus- 7.5 %, Cavernous sinus and Cortical vein were 5% The most common associated factors were H/o Infection were -85%, Dehydration-65% Pregnancy induced hypertension -42%, Hyperhomocysteinemia- 13%, Puerperal -9%, H/o Diabetes- 4%. The majority of the patients were Recovered - 64.10%, Recovered with disability -23.08%, Death occurred in 12.82%. These findings are similar to Priyadarsini [15] Bose they found Majority of the patients involved in the study were in the age group of 15-35 years contributing to 75%. Male: female ratio was 1.5: 1. Headache was the most common presenting symptom seen in 36 (87.5%) cases followed by convulsions in 32 (80%) patients. Altered sensorium was observed in 26 (65%), focal deficits in 22 (55%), and 18 (45%) had fever. Two of them had ear discharge and another with diarrhea. Cranial nerve involvement in 35% and pappiledema was noted in 20% of patients. Out of 40, 17 (42.5%) patients were anemic. Eighteen (18) patients who were suspected of meningitis underwent CSF analysis. Abnormality was seen in 10 patients with pleocytosis being the maximum. On CT scan, haemorrhagic infarct was seen in 22 (55%) cases followed by edema in 8 (20%) and 10% showed normal CT picture. On MRI scan, superior sagittal sinus thrombosis was observed in 24 (60%) patients followed by transverse sinus in 20 (50%) patients. Etiology factor were identified in 25 (62.5%) of patients and in 15 (37.5%) cases risk factors could not be identified. The mortality rate in the study was 20%.

CONCLUSION

It can be concluded from our study that majority of the patients were in the age group of the majority of the patients were in the age group of 40-50. The majority of the patients were Male. The most common site were Superior sagittal sinus, Transverse sinus. The majority of the patients were Recovered, Recovered with disability Death occurred in 12.82%.

REFERENCES

1. Ameri A, Bousser MG. Cerebral venous thrombosis. Neurol Clin. 1992; 10: 87-111.
2. Bousser MG, Ferro JM. Cerebral venous thrombosis: an update. Lancet Neurol. 2007; 6: 162-170.
3. Srinivasan K. Ischemic cerebrovascular disease in the young: Two common causes in India. Stroke. 1984; 15: 733–735.
4. Banerjee AK, Varma M, Vasista RK, Chopra JS. Cerebrovascular disease in north-west India: a study of necropsy material. J Neurol Neurosurg Psychiatry. 1989; 52: 512-515.
5. Bousser MG, Chiras J, Bories J and Castaigne P. "Cerebral venous thrombosis—a review of 38 cases," Stroke. 1985: 16: 199-213.
6. Bousser MG, Barnett HJM. Cerebral venous thrombosis. In: stroke: pathophysiology, diagnosis and management. New York. Churchill Livingstone. 2004; 4: 300-321.
7. Khealani BA, Wasay M, Saadah M, Sultana E, Mustafa S, et al. Cerebral Venous Thrombosis: A Descriptive Multicenter Study of Patients in Pakistan and Middle East Stroke. 2008; 39: 2707-2711.
8. Patil VC, Choraria K, Desai N, Agrawal S. Clinical profile and outcome of cerebral venous sinus thrombosis at tertiary care center. J Neurosci Rural Pract. 2014; 5(3):218-24.
9. Cross JN, Castro PO, Bennel Wb. Cerebral strokes associated with pregnancy an puerperium. Br Med J Clin Res. 1968;3: 214-8.
10. Newman LC, Lipton RB. Emergency department of evaluation of headache. Neurol clin. 1998; 16: 285- 303.
11. Sohoni CA. Acute cerebral venous sinus thrombosis: A rare complication of binge drinking. J Sci Soc. 2014; 41(3):192-4.
12. Bousser MG, Chiras J, Bones J, Castaigne P. Cerebral venous thrombosis. A review of 38 cases. Stroke. 1985; 16: 199-213.
13. Bousser MG. Cerebral venous thrombosis: Diagnosis and management. J Neurol. 2000; 247: 252-8.
14. Bose P et al. A clinical study of cerebral venous thrombosis. Int J Adv Med. 2017 Oct;4(5):1236-1240.

Source of Support: None Declared
Conflict of Interest: None Declared