IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 23, Issue 4 Ser. 6 (April. 2024), PP 33-35
www.iosrjournals.org

Clinical And Etiological Profile Of Cortical Venous Thrombosis Patients Admitted In Tertiary Care Hospital

Dr.Rajesh A,
Associate Professor, Department Of Neurology, Travancore Medical College Hospital,Kerala

Abstarct-
Introduction-*Cerebral venous thrombosis (CVT) is a rare cerebrovascular disease which occurs due to the occlusion of dural Venous sinus or cerebral veins. CVT has an incidence rate of 1-12 cases per million and constitutes 0.5-3% of all types of cerebrovascular diseases. . Mortality rate of severe CVT can be as high as 34%.*
Materials and methods-*It is a Retrospective study based on review from hospital database of Cortical venous thrombosis patients admitted at our hospital (Travancore Medical college) from October 2019 to September 2023.The aim of the study is to determine the clinical characteristics and etiology of CVT in patients.*
Results- *cortical vein thrombosis were commonly seen among young females and initial clinical presentation were headache, vomiting and seizures. Use of hormonal preparations were seen among 26 patients (44.8%). Concurrent Covid infection were seen in 10 patients (17.3%).*
Conclusions- *Cerebral Venous Sinus Thrombosis is a treatable and almost reversible condition if detected at an early stage. With early detection and appropriate management, residual deficits can be averted and future recurrence can be prevented.*
Key words-*CVT, clinical features, Risk factors.*

Date of Submission: 17-04-2024 Date of Acceptance: 27-04-2024

I. Introduction

Intracranial cerebral venous thrombosis (CVT) is a rare cerebrovascular disease which occurs due to the occlusion of dural Venous sinus or cerebral veins. CVT has an incidence rate of 1-12 cases per million and constitutes 0.5-3% of all types of cerebrovascular diseases. It can affect all age groups, common among young females[1]. Mortality rate of severe CVT can be as high as 34%[2]. Early diagnosis and management can bring down mortality; etiological evaluation needed to prevent recurrence.

Commonly associated risk factor among females are hormonal treatment(oral contraceptive pills)[3]; Among males risk factors commonly seen are[4,5] alcohol intake,,hyperhomocysteinemia. Genetic thrombophilia is responsible in 20% of all patients with CVT[6]. Risk factors now commonly encountered are post Covid state/Covid 19 infection, Autoimmune conditions[7].Symptoms commonly seen are headache (70-90%), seizure (40-50%)[6].

Focal motor deficits (20–50%), altered mental status (10–25%), and coma (5–15%) are seen in venous infarction, with high mortality if not treated appropriately[7-9].

The diagnosis of CVT is based on history, clinical examination, and supported by magnetic resonance imaging (MRI) with venography/ computerized tomography (CT) venography[8]. CVT in imaging can present as venous thrombosis, venous infarction, cerebral edema and later with herniation due to raised intracranial tension[8,9].

Patients with CVT are treated with Heparin followed by oral anticoagulants for 6-12 months or longer depending on the etiology[10].Neurointervention with thrombolysis are done at selected centers. Patients diagnosed and treated early has better outcome.

II. Materials And Methods

It is a Retrospective study based on review from hospital database of Cortical venous thrombosis patients admitted at our hospital (Travancore Medical college) from October 2019 to September 2023.
The aim of the study is to determine the clinical characteristics and etiology of CVT in patients.

All headache patients with papilledema/ seizure /focal deficits were evaluated at emergency department as per standard clinical protocol. Patients were then subjected to imaging with MRV or CT venogram. Based on imaging findings, patients were diagnosed with CVT and admitted in Neuro critical care

unit and treated with heparin, anti edema measures, anti epileptic medications and Ventilator support if needed. Surgical intervention /craniectomy done in case of impending risk of cerebral herniation.

Risk factor evaluation of CVT done simultaneously to determine the possible etiology to prevent recurrence. Among females, use of hormonal therapy/ oral contraceptive pill was asked. History of alcohol usage, recent Covid infection, autoimmune disease (rashes, oral ulcers, arthritis, pancytopenia, dry eyes, blood/mucus in stools), HIV infection, malignancy. Family history of CVT/thrombophilia disease/young stroke/young onset cardiac disease were asked.

Investigations:
1. Mrv/Ct Venogram
2. Complete Blood Count,Esr
3. Ana Profile
4. Thrombophilia Assay
5. Covid Antibody/Antigen
6. Hba1c
7. Hiv,Hbsag
8. Chest Xray, Ultrasound Abdomen,2d Echo.

Physiotherapy and rehabilitation were done in patients with motor deficits. Patients were then followed upon OPD basis to assess the outcome. The collected data were entered into Microsoft Excel Sheet and analysed. Descriptive statistics such as median, frequency and percentages were calculated.

III. Results

70 patients were enrolled in the study as per data available. Median age of the study group was 35 years. 64% of the study group were females.

Table 1: Clinical presentation of the study group.

Median Age	35 years	
Gender	**Number of patients (n=70)**	**Percentage (%)**
Male	25	35.7
Female	45	64.3
Onset of presentation		
Acute(<48 hours)	60	85.7
Subacute(48hours-30days)	8	11.4
Chronic(>30days)	2	2.9
Clinical features at presentation		
Headache	70	100.0
Seizure/Status epilepticus	32	45.7
Vomiting	60	85.7
Diplopia	25	35.7
Altered sensorium	10	14.3
Hemiparesis	4	5.7
Clinical examination findings		
Papilledema	66	94.2
VI nerve palsy	25	35.7
GCS <9	6	8.6
Hemiparesis	4	5.7
Normal Neurological examination	4	5.7

Table 2: Risk factor assessment of the study group.

Risk factors	**Number of patients (n=70)**	**Percentage (%)**
Present	58	82.9
Absent	12	17.1
Risk factors	**Number of patients (n=58)**	**Percentage (%)**

Use of hormonal preparations	26	44.8
Covid infection	10	17.3
Thrombophilia-genetic	8	13.8
Systemic autoimmune disease	6	10.3
Alcohol	4	6.9
Dehydration	1	1.7
Systemic infection	3	5.2

IV. Discussion

In contrast to ischemic stroke, cerebral venous sinus thrombosis often occurs in young individuals. Though risk factors are often associated with cortical venous thrombosis, few patients had none of the risk factors. With early suspicion of clinical symptoms and imaging findings, diagnosis at an early stage is often possible. In our study patients, cortical vein thrombosis was commonly seen among young females and initial clinical presentation were headache, vomiting and seizures. Use of hormonal preparations were seen among 26 patients (44.8%). Concurrent Covid infection were seen in 10 patients (17.3%). Management of CVT in covid infection required anticoagulation and immunoglobulin. Alcoholism and CVT were seen in 4 patients, usually among binge alcoholics due to dehydration, hyperviscosity. Twelve of them (17%) did not have any risk factor association. With appropriate management all patients recovered and discharged with clinically stable state.On follow up, four patients had residual weakness which improved on subsequent follow up.

V. Conclusions

Cerebral Venous Sinus Thrombosis is a treatable and almost reversible condition if detected at an early stage. With appropriate history, symptom analysis and imaging, cortical venous thrombosis can be detected at an early stage. Proper risk factor analysis can prevent future recurrence. With early detection and appropriate management, residual deficits can be averted and future recurrence can be prevented.

References

[1] Shakywar M, Agarwal A, Srivastava Mp, Bhatia R, Singh Mb, Rajan R, Gupta A, Pandit Ak, Garg A, Sharma J, Gupta A. Predictors Of Seizures And Associated Functional Outcome In A Cerebral Venous Thrombosis Cohort: An Ambispective Cohort Study. Annals Of Indian Academy Of Neurology. 2022 Nov 1;25(6):1056-61.

[2] Duman T, Uluduz D, Midi I, Bektas H, Kablan Y, Goksel Bk, Milanlioglu A, Orken Dn, Aluclu U, Colakoglu S, Tüfekci A. A Multicenter Study Of 1144 Patients With Cerebral Venous Thrombosis: The Venost Study. Journal Of Stroke And Cerebrovascular Diseases. 2017 Aug 1;26(8):1848-57.

[3] Pai N, Ghosh K, Shetty S. Hereditary Thrombophilia In Cerebral Venous Thrombosis: A Study From India. Blood Coagulation & Fibrinolysis. 2013 Jul 1;24(5):540-3.

[4] Narayan D, Kaul S, Ravishankar K, Suryaprabha T, Bandaru Vs, Mridula Kr, Jabeen Sa, Alladi S, Meena Ak, Borgohain R. Risk Factors, Clinical Profile, And Long-Term Outcome Of 428 Patients Of Cerebral Sinus Venous Thrombosis: Insights From Nizam′ S Institute Venous Stroke Registry, Hyderabad (India). Neurology India. 2012 Mar 1;60(2):154-9.

[5] Anadure Rk, Wilson V, Sahu S, Singhal A, Kota S. A Study Of Clinical, Radiological And Etiological Profile Of Cerebral Venous Sinus Thrombosis At A Tertiary Care Center. Medical Journal Armed Forces India. 2018 Oct 1;74(4):326-32.

[6] Dash D, Prasad K, Joseph L. Cerebral Venous Thrombosis: An Indian Perspective. Neurology India. 2015 May 1;63(3):318-28.

[7] Li Y, Li M, Wang M, Zhou Y, Chang J, Xian Y, Wang D, Mao L, Jin H, Hu B. Acute Cerebrovascular Disease Following Covid-19: A Single Center, Retrospective, Observational Study. Stroke And Vascular Neurology. 2020 Sep 1;5(3).

[8] Goyal G, Charan A, Singh R. Clinical Presentation, Neuroimaging Findings, And Predictors Of Brain Parenchymal Lesions In Cerebral Vein And Dural Sinus Thrombosis: A Retrospective Study. Annals Of Indian Academy Of Neurology. 2018 Jul 1;21(3):203-8.

[9] Lafitte F, Boukobza M, Guichard Jp, Hoeffel C, Reizine D, Ille O, Woimant F, Merland Jj. Mri And Mra For Diagnosis And Follow-Up Of Cerebral Venous Thrombosis (Cvt). Clinical Radiology. 1997 Sep 1;52(9):672-9.

[10] Ferro Jm, Aguiar De Sousa D. Cerebral Venous Thrombosis: An Update. Current Neurology And Neuroscience Reports. 2019 Oct;19:1-9.