

A Clinical Research in Establishment of relationship with use of early administration of enoxaparin in cortical venous sinus thrombosis with haemorrhage reduced morbidity and mortality

¹Dr. Himanshu. V. Patel, Assistant Professor General Medicine Dharpur.

Corresponding Author: Dr. Himanshu. V. Patel, Assistant Professor General Medicine Dharpur.

How to citation this article: Dr. Himanshu. V. Patel, “A Clinical Research in Establishment of relationship with use of early administration of enoxaparin in cortical venous sinus thrombosis with haemorrhage reduced morbidity and mortality”, IJMACR- July – August - 2022, Vol – 5, Issue - 4, P. No. 79 - 82.

Copyright: © 2022, Dr. Himanshu. V. Patel, et al. This is an open access journal and article distributed under the terms of the creative commons attribution noncommercial License 4.0. Which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

Type of Publication: Original Research Article

Conflicts of Interest: Nil

Abstract

Cerebral venous sinus thrombosis occurs when a Blood clot from in venous sinus. This prevents blood from draining out of the brain. As a Result, blood cells may break and leak forming a Haemorrhage.

Cortical venous sinus thrombosis is a rare form of stroke. It affects about 5 people in Million each year.¹

The Risk for this kind of stroke in new born is greatest during first 3 month. Over all about 3 out of 300000 children and teens up to Age 18 with have a stroke.

We reported a 21-year female recently married of one month with semi-conscious condition and Right sided power of 0/5 in both upper limbs And Lower Limb. Left side; Normal Power. MRI Suggestive of cortical venous Sinus thrombosis (CVST). Patient Required O₂ Support and extensive ICU care.

Even MRI S/o of Haemorrhage but secondary mostly Due to VST. We give enoxaparin in Italy 0.4 mg BD then after. Next four for 0.6 mg BD.

Patient gradually improve and Discharge in full stable condition with Power of 5/5 in both limbs.

Keywords: CVST, Early Enoxaparin, Outcome

Introduction

Cortical Venous sinus is channel found between the endosteal and meningeal of Dura matter in the brain. They Receive blood from cerebral vein. Receive CSF from Sub arachnoid space by arachnoid granulation and mainly empty in to internal jugular vein.

- Thrombosis of Dural sinus and cerebral veins is an uncommon of stroke.
- It affects young individual²
- Many Risks factor associated with are CVT: Prothrombotic Condition, Anti thrombin III deficiency, Deficiency, Protein s deficiency, Anti phospholipid Syndrome, pregnancy and puerperium, oral contraceptive use, Drug induced (Antrogen, danazol, vitamin A, IV IG) Hyper Homocysteine Mia, cancer Hyper coagulable stage, para meningial infection,

spontaneous Intra cranial Hypotension, Auto immuno Disease. Idiopathic.

➤ Clinical Diagnosis of CVT is Typically on the Due to Raised Intra cranial tension and Brain injury from Haemorrhage Infarction, Headache is most common symptom of CVT.³

➤ When Focal Injury occur most common symptom are Hemiparesis and aphasia occur but other Cortical sign and symptom occur in including psychosis. Clinical sign and symptom occur Depend on the site of sinus thrombosis. In superior Sagittal sinus thrombosis most common symptom of Headache. increased ICT, Papilloedma, seizure, motor Deficit occur. In a less Percentage patient thrombosis of deep cerebral venous system occur; In which There is thalamic or basal ganglia infarction occur, which lead to Rapid Neurological Detoriation. Clinical feature that different from CVA are first focal or generalized seizure are frequent. No Bilateral involve meal expect when deep venous sinus, System involved; Thalamic infarction occur, decreased consciousness occur. Paraparesis occur due to Sagittal sinus thrombosis. A complete blood Count, Biochemistry, ESR and Activated partial thromboplastin time Needed in suspected CVT.

➤ Imaging in Diagnosis of CVST are MRI/CT Brain. MRI (MR veno) is more sensitive for Diagnosis of CVST.⁴ In CT imaging – CVT Suggested by empty delta sign. Management of CVST depend on the Clinical Feature, First stabilisation of patient, intensive ICU Care, For moderate to severe patient; seizure control. Depend on the condition either medical or surgical procedure.

➤ We reported 21-year Female present with CVST. With Neurological Detoriation. Patient with proper Diagnosis and ICU care, Discharged in stable Condition.

Discussion

A 21-year-old female came in emergency unit at Hospital with generalised tonic clonic seizure with semiconscious condition. emergency unit activated, patient vital & RBS Normal, but O₂ saturation 90% emergent O₂ Support at 2L/min with Lorazepam anticonvulsant drug given. With Seizure stop in 30 second. Detail History taken from relative, They denied any history of fall down or trauma. They don't know any primary medical condition. Her Husband told that she complain Headache, Since one month which relieved with medicine.

➤ We put patient on three injectable antiseizure medicine Bravacetam, Sodium Valproate, Lacosamide, due to continue seizure.

➤ With clinical History of GTCS and Headache and younger age of one set we do MRI and side way we send, Her Blood parameter, Such as Routine Investigation with S.TSH Vit B12, Homocysteine, Anticoagulant profile and ANA by IF.

➤ After MRI Suggestive of venous sinus thrombosis with Hemorrhage. After we do detail study of MR Venogram of which suggest both involvement of both superficial sinus and deep cerebral vein. Her clinical profile after post ictal is right side power 0/5 in both upper limb and lower limb.

➤ Her clinical and imaging criteria confirm; There is involvement of CVST without, delay we started; in enoxaparin 0.4 mg on first day with BD Dose even with hemorrhagic infarction.

➤ Then after next four day we give full dose of enoxaparin 0.6mg BD and on day-3 we add, Oral anticoagulant Tab Acitrom 1mg and 2mg on alternate day. Patient improved from Day 4 to maximum on Day-6 with full consciousness and full power (5/5) in rt sided

limb. So patient Discharged on Day – 8 with full stable condition without any residual deficits.

Pathogenesis-management-methodology

➤ Cortical venous sinus thrombosis is a uncommon cause of cerebral infarction relative to arterial Disease. Many causative Factor associated with cerebral venous sinus thrombosis which may be provoked or unprovoked.

➤ Sinus thrombosis which may provoked or unprovoked.

➤ Sinusitis, trauma, surgery, Hypercoagulable stage associated with CVT are Antiphospholipid lipid Syndrome, Protein-S and protein-C Deficiency, Lupus anticoagulant, Factor V mutation, Pregnancy, malignancy, ocpill are associated with hupertendency to clotting Lead to CVST.⁵

➤ In Adult CVT affected are younger than arterial stroke. In international study on cerebral vein and dural Sinus thrombosis (ISCVT) the median age was 37 year for CVST.⁶

➤ Patient with suspected CVT – CBC, Biochemistry, PT/APTT: Screening for Prothrombotic Condition such as OCP use, IBD (Inflammatory Bowel Disease), Testing for Prothrombotic condition as deficiency of protein S and C antiphospholipid syndrome, Factor V Leiden Mutation.

➤ Patient Present with CVST are Headche, Nausea, Vomiting, seizure, Semiconsciousness to Coma'. Cranial Nerve Syndrome which Occur are Pulsatile tinnitus, unilateral deafness, double vision. Focal Neurological deficit occur depend on area of brain involved. Which are Hemiparesis, Weakness in lower extremity, Aphasia, ataxia, chorea, dizziness Hemianopia occur.

➤ Approach of CVT by imaging most common by MRI brain with venogram which suggest absent flow in cortical venous sinus.⁸

➤ CT brain done in some case to rule out, another condition such as Neoplasm, Subdural empyma. A detail sign on contrast; suggest of enhancement of Sagittal sinus. While lab investigation tone in CVST are, CBC, Antiphospholid and anticardiolipin antibodies, Anti-coagulant work up, EEG for seizure focus.

➤ Treatment for cortical venous sinus thrombosis include anticoagulation or surgery. Use of Systemic anticoagulation as initial therapy in event of venous Haemorrhage even with haemorrhage in brain.⁹

➤ In CVST patient along with anticoagulation: general care of IV Fluid, Vital monitoring GCS assessment must necessary.

➤ In case of Server Neurological Detoriation open thrombectomy and Local thrombolytic therapy Necessary.¹⁰

➤ In Patient with Provoked CVT Vitamin K antagonist for 3 to 6 month with INR 2-0-3.0 adjustment.

➤ In Patient with Unprovoked CVT oral anticoagulant; For 6-12 month with INR – 2.0-3.0

➤ In Pregnant Woman with CVT LMWH, given throughout Pregnancy and in post-partum LMWH or oral anticoagulant given for more than 6 weeks post-partum.¹¹

Conclusion

Basic approach to CVST including first stabilisation, Neuro urological care, seizure control, Systemic anticoagulation then oral anticoagulant Shift. Daily GCS monitoring, imaging by MRI brain with MR venogram early diagnosis and treatment majority patient discharged after 5-6 day without any organ dysfunction.

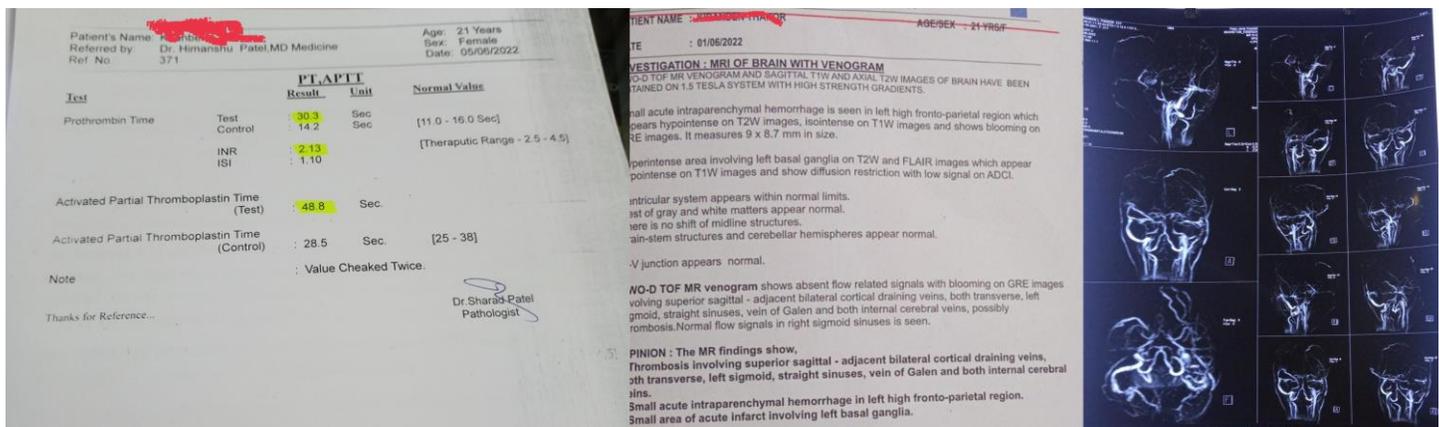


Figure 1

References

1. JOHNS HOP KINS MEDICINE: Cerebral Venous Sinus thrombosis
2. Stam J. thrombosis of cerebral Veins and Sinus. Nenal J med. 2005; 352; 1791
3. Jane C. Freedman: Joseph Loscalzo Harrison's Principal of internal medicine 20e, chapter: 113.
4. Guenther G, Araza Cerebral Venous thrombosis: A Diagnosis and treatment up date. Neurologia 2011: 26 – 488-98
5. Boussor MG. Cerebral Venous thrombosis. Pregnancy and OCP. Thromb Res. 2012; 130: 519-22
6. Fero JM, Canhuop, Stanj. et. al. Prognosis of Cerebral Sinus thrombosis; result of internal Study on Cerebral Vein and Dural Sinus thrombosis
7. Flores – Burr Gan JM; Clinical heterogoniath of CVT: Rev. Neurol 2009. Dec- 1-15. 49 (11); 573-6
8. Mas JL, Mader JF. MR imagina in lateral Sinus hypoplasia and thrombosis Stroke. 1990. Sep. 21 (a) 1350-6
9. Model R. Monteith SJ. Crowley RW A Review of therapeutic Strategies in management of CVT. Neurosurg. Focus: 2009 Nov. 27 (5) E6
10. Einhauplkm, Meister, etal. Heparin treatment in Sinus thrombosis. Lancet. 1991 Sept. 338 (8767); 597 -600
11. Kashkoush AI, MaH, etal. Cerebral Venous thrombosis in Pregnancy J Clin Neurosci 2017; 39: 09-15