

Case Report on Cerebral Venous Thrombosis and Phenytoin Withdrawal

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ABSTRACT

The majority of patients with stroke who suffer from Cerebral Venous Thrombosis (CVT) are young people and children. Women have venous thromboembolism three times more frequently than men do. Cerebral Venous Thrombosis (CVT), a special site for thrombosis, is a specific cause of stroke. Compared to both arterial stroke and Venous Thromboembolism (VTE), CVT primarily affects children and young people. A variety of symptoms and indicators can be present in patients. The lateral, cavernous, and superior sagittal sinuses are the ones that thrombose the most commonly. Surgery, mechanical thrombectomy, anticoagulation, and fibrinolysis are available options. A 21-year-old woman with symptoms of rashes that have been present for two days, a history of cerebral venous thrombosis, phenytoin allergy, early papilledema, nausea, exertional dyspnea, and giddiness is the subject of the case study. The patient's medication regimen includes nicoumalone, levitracetam, acetazolamide, LMWH, pantaprazole, paracetamol, and cephalixin.

Keywords: CVT, Phenytoin allergy, Pappilledema, Hypoglycemia, Young age group.

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INTRODUCTION

Three to four incidences of Cerebral Venous Thrombosis (CVT) occur in every million adults, while seven cases occur in every million kids.¹ rare kind of cerebrovascular illness, Cerebral Venous Thrombosis (CVT), or thrombosis of the intracranial veins and sinuses, affects approximately 5 people per million and contributes 0.5% of all strokes.² Patients may develop CVT as a result of several diseases or conditions. These conditions include cancer, haematological deficiencies in antithrombin III, protein C, and protein S, and having the factor V Leiden or prothrombin gene mutations.³ They also include all medical, surgical, and gyneco-obstetric causes of deep vein thrombosis in the legs. Headache, seizures, focal neurological deficits, altered consciousness, and papilloedema are the most typical symptoms and signs, and they can occur alone or in combination with other symptoms.⁴ On fundoscopy, patients with a chronic course or delayed clinical presentation may exhibit papilloedema, but this finding is less frequent in cases that are acute.⁵ Recent recommendations for treating CVT have been published, which combine symptomatic management of intracranial pressure,

seizures, headaches, and visual impairment with antithrombotic management of the numerous causes.⁶

CASE REPORT

A 21-year-old female patient with complaints of hand rashes, nausea, exertional dyspnea, and giddiness was admitted to the hospital at Virudhunagar government headquarters hospital, Tamil Nadu. The reference number of the ethical certificate provided by them for conducting this study was R. No 110/HS/GHQH-VNR/SEP 2019. The patient is currently taking medicine for a known case of cerebral venous thrombosis. In order to treat a CVT-induced seizure, the patient takes phenytoin tablets, which causes an allergic response that results in hand rashes. Patients are conscious, alert, and afebrile, and all other systemic investigations are normal. Both the hemoglobin level and the random blood sugar level are slightly below normal. The patient has been diagnosed with dyspnea, early papilledema, phenytoin allergy, and CVT.

The patient was advised to take Nicoumalone 2 mg OD (evening), Levitracetam 500 mg bd, and oral fluids were prescribed for the patient. Half of the tablets were to be taken in the morning and one was to be taken at night. Nicoumalone discontinued the next day, and low molecular weight heparin, pantoprazole, and cephalixin were started. IVF DNS was also started at a rate of 75 mL/hr, in addition to povidine iodine ointment.



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Table 1: Clinical laboratory investigation report.

Test	Value	Reference value
Haemoglobin	10.9 g/dL	12-14 g/dL
Total count	9600	4000-11000
C-Reactive protein	12.5 mg/dL	0.1-1.0 mg/dL
Platelet	3.0/mcL	1.5-4.5/mcL
Respiratory rate	16/min	18-22/min
Blood Pressure	100/70 MM/Hg	120/80 mm/Hg
Random blood sugar	60 mg/dL	8-120 mg/dL

DISCUSSION

Adults under the age of 45 are particularly at risk for CVT.⁷ Everyone is impacted by CVT. The incidence is higher in young women (perhaps due to oral contraceptive use and pregnancy) and older people of both sexes; the ratio of women to males is 1.3:1.⁸ The location and size of the affected sinuses affect the clinical appearance. Headache, papilledema, focal motor or sensory impairments, and seizures are the most typical symptoms of CVT.⁹ 11% of patients experience seizures, and this percentage increases if the patient has already experienced acute seizures or has a haemorrhagic parenchymal lesion.¹⁰ Fortunately, severe sight loss is now extremely uncommon.¹¹ Neuroimaging is used to make the diagnosis of CVT, but compared to arterial strokes, brain imaging on its own is not very helpful because it frequently reveals non-specific lesions like haemorrhages, infarcts, or oedema either alone or in combination, and it can be normal in up to 25% of patients. Imaging of the venous system, which may reveal an obstructed channel or an intravascular thrombus, is crucial to the diagnosis. The current gold standard is the combination of magnetic resonance venography and MRI to detect the absence of the same vessel's visibility.¹² Systemic heparin therapy is typically continued until the patient exhibits clinical improvement or stabilization, at which point warfarin or enoxaparin therapy is introduced, as in the circumstances previously stated. There are currently no controlled studies comparing the efficacy of warfarin and enoxaparin following heparinization or addressing the optimum duration of anti-coagulant therapy. The majority of research support an anti-coagulation regimen of three months, with greater duration in cases of coagulopathy.¹³ The first line of treatment for CVT is still warfarin.¹⁴ Antiepileptic medications should be administered to patients who initially experience seizures because they run the risk of a recurrence.¹⁵

CONCLUSION

Young adults who experience new-onset headaches, focal neurologic impairments, seizures, or papilledema should have CVT investigated as a possible differential diagnosis because it is a rare cause of stroke symptoms in this age group. In this paper, we

reported a clinical instance of a seizure caused by cerebral venous thrombosis that was treated with phenytoin. After taking the phenytoin tablet, the patient experienced an adverse reaction that manifested as hand rashes. The anti-convulsion medication tablet, levitracetam, has since been modified by the doctor. Cerebral venous thrombosis was treated with Injection Low molecular weight heparin, while phenytoin-induced allergic reactions such rashes were treated with povidine iodine ointment. The problem is not being addressed despite the patient's investigation showing an extremely high level of C-reactive protein.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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