

Cerebral Venous Sinus Thrombosis Postpartum

A Case Report and Literature Review

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Background

Cerebral venous sinus thrombosis is a neurological emergency that presents most commonly with headache and seizure. The risk increases significantly postpartum compared to that of the general population.

Aim

To present a case of cerebral venous sinus thrombosis and review the diagnosis, management and prognosis in the postpartum setting.

Case Description

A 33-year-old presented 10 days post term vaginal delivery following a generalised tonic-clonic seizure at home. This was on a background of term pre-eclampsia, chronic autoimmune thrombocytopenia, and hypothyroidism. She had had an uncomplicated immediate postpartum period and had been discharged day two on two anti-hypertensives, with stable blood pressures and biochemistry.

On arrival to hospital, the seizure was presumed to be eclamptic. Initial management included anti-hypertensives and intravenous magnesium sulphate infusion. CT brain revealed an extensive dural venous sinus thrombosis with secondary haemorrhage overlying the left cerebellar tentorium. Intravenous heparin anticoagulation was promptly commenced, as well as intravenous levetiracetam for seizure prophylaxis. She was admitted to the Intensive Care Unit for close monitoring. She had no further seizures and remained clinically stable with no neurological deficits. She was discharged after 13 days on therapeutic enoxaparin, levetiracetam, and enalapril.

Thrombophilia screen demonstrated heterozygous Factor V Leiden mutation. Her thrombosis was considered secondary to a pro-thrombotic state post-partum combined with pre-eclampsia, immune thrombocytopenia and hereditary thrombophilia.

At her six week review post discharge, she was seizure free with no neurological deficits. She had been transitioned to apixaban and telmisartan, and remained on levetiracetam. Ongoing follow-up has been arranged to complete a secondary screen and work-up of underlying hypertension



Figure 2 - CT brain demonstrating acute haemorrhage overlying left cerebellar tentorium

Discussion

Postpartum seizures are often attributed to eclampsia, especially in patients with pre-existing pre-eclampsia. Cerebral venous sinus thrombosis is a sinister differential to be considered given differing treatments.

The risk of cerebral venous sinus thrombosis is significantly increased during the first 6 weeks postpartum. Other risk factors include prothrombotic conditions, malignancy and infection.¹

Diagnosis is made with MRI brain or CT brain and venogram. It is more likely to present with intracerebral haemorrhage in those that are pregnant or postpartum.² The mainstay for treatment is anticoagulation therapy with intravenous heparin or subcutaneous low molecular weight heparin, regardless of presence of haemorrhage.³ Other acute management issues include lowering intracranial hypertension, seizure prophylaxis and treatment of infection and inflammation.

Complete recovery at six months is seen in 81% of women with gender specific risk factors which include pregnancy and hormone therapy. This was compared to a rate of 71% for men and women without gender specific risk factors.⁴ Recurrence rate of CVST in future pregnancies is estimated to be 9 in 1000, with a recurrence rate for noncerebral venous thromboembolism of 27 in 1000. This remains significantly higher (80x) than the baseline risk of a CVST for the general population.⁵ Prophylactic dose anticoagulation throughout the antepartum and for a minimum of six weeks post partum is recommended.⁶

Conclusion

Timely diagnosis and treatment of cerebral venous sinus thrombosis occurring during pregnancy or postpartum ensures excellent outcomes which are often better than that of the general population.

References

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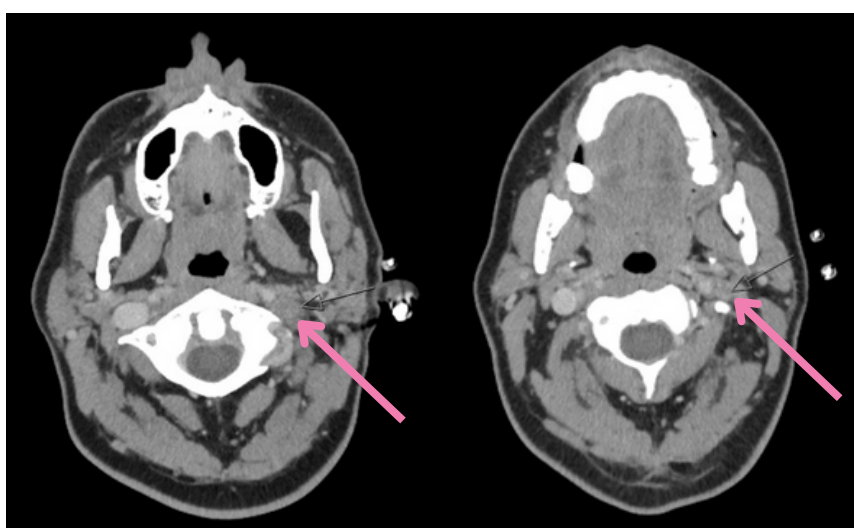


Figure 1 - CT neck showing left transverse sinus thrombus extending to the level of the angle of mandible.