

Postpartum Thalamic Infarct: A Rare Case

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Abstract: *There is an increased risk of stroke during pregnancy and the postpartum period with the risk greatest deemed to be in the immediate postpartum period. Stroke is an important contributor to maternal morbidity and mortality. We present a rare case of postpartum ischemic stroke. A 22 years old woman with nil comorbidities on postnatal day 2 following late preterm vaginal delivery presented with visual disturbance (diplopia, ptosis of left eye) diffuse headache, hypotension and ataxic gait disturbance. An MRI of the head revealed area of DWI restriction with corresponding ADC hypointensity in the right thalamus extending to involve midbrain on the right side. No signal intensities changes in the FLAIR resulting in DWI - FLAIR mismatch. These finding suggest hyperacute infarct in thalamus also involving right midbrain. She was started on antiplatelet therapy and anticonvulsant. On postnatal day 6 patient was symptomatically better with no sign of diplopia, ataxia, and drowsiness. The risk of a stroke is most significant during the two weeks following childbirth and may remain elevated for 12 or more weeks after delivery. This study concludes that thalamic infarct in postpartum period should not be neglected even in vaginal deliveries and prompt interventions can save the patients from lifetime morbidity and mortality.*

Keywords: postpartum, ischemic stroke, pregnancy, humans, vaginal deliveries, complications

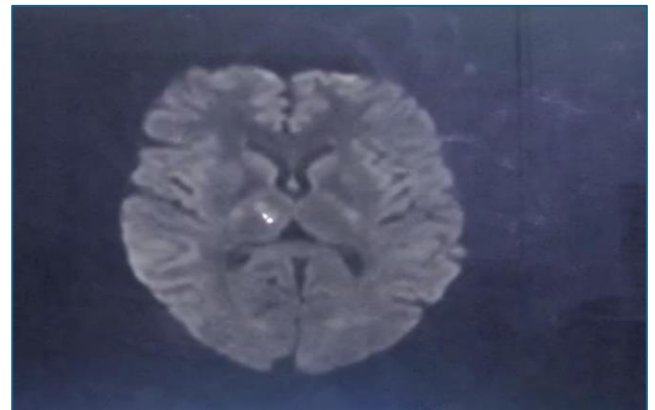
1. Introduction

There is an increased risk of stroke during pregnancy and the post - partum period with the risk greatest deemed to be in the immediate post - partum period. Stroke is an important contributor to maternal morbidity and mortality. About half of pregnancy - related strokes involve bleeding in the brain, and the remainder are due to a blood clot (ischemic stroke). The risk of a stroke is most significant during the two weeks following childbirth and may remain elevated for 12 or more weeks after delivery. A stroke in pregnancy is a rare event, but there are medical conditions that can increase the risk. ie, who develop preeclampsia — newly elevated blood pressure during pregnancy. Patients with these other risk factors may also be at higher risk for pregnancy - related stroke: Migraine headaches Vascular condition, Lupus Chronic kidney disease, Hypertension diagnosed before pregnancy, Gestational diabetes, which raises the risk of high blood pressure during pregnancy and for, heart disease, and stroke later in life Contrary to popular belief, older age does not raise the risk of stroke during pregnancy.

2. Case Presentation

A 22 years old woman with nil comorbidities on post-natal day 2 following late preterm vaginal delivery presented with visual disturbance i. e., diplopia, ptosis of left eye, diffuse headache, hypotension and ataxic gait disturbance. She was found to be confused and drowsy with GCS Score of 10. On examination patient was having exaggerated deep tendon reflex, ataxic gait with saturation fluctuating between 91 - 94% at room air. Fundoscopy done at bed site reported to be normal. On MR Venogram it showed hyperacute right thalamic infarct. Laboratory test revealed haemoglobin 12.1 g/dl, white blood cell counts 6.2X10⁹/L, platelet 1, 76, 000/L. Random blood sugar (RBS), lipid profile, liver function test (LFT), urea, creatinine, and electrolytes were normal. Hepatitis B surface antigen (HBsAg) and anti - hepatitis C virus antibody (anti - HCV) were non - reactive. Thyroid - stimulating hormone (TSH), vitamin B12, and hypercoagulability workup were within normal limits. An MRI of the head revealed area of DWI restriction with corresponding ADC hypointensity in the right thalamus

extending to involve midbrain on the right side. No signal intensities changes in the FLAIR resulting in DWI - FLAIR mismatch. These finding suggest hyperacute infarct in thalamus also involving right midbrain.



MR Venogram showing area of DWI restriction with corresponding ADC hypointensity in right thalamus.

Patient was started on aspirin 150mg stat dose followed by aspirin 75mg once daily, citicolin 500mg + piracetam 400 mg combination once daily atorvastatin 40 mg once daily, clopidogrel 75mg daily. On postnatal day 6 patient was symptomatically better with no sign of diplopia, ataxia, and drowsiness.

3. Discussion

This case concerns a rare presentation of early postpartum cerebral infarction involving the right thalamus. The reported incidence of pregnancy - related stroke varies widely but has been reported to lie between 11 and 26 deliveries per 100, 000 maternities, with the highest risk in the postpartum period. The pathophysiology of cerebral infarction in pregnancy and the postpartum period is thought to be related to significant hemodynamic changes during pregnancy and after delivery. This serves to facilitate maternal and fetal exchanges and provide adequate blood supplies to manage blood loss at delivery. In addition to increases in red cell mass and plasma volume, fibrinogen, factors VII, X and XII as well as the number of platelets rise

to the upper limits of normal resulting in a relatively hypercoagulable state. There is a rise in cardiac output during pregnancy and following delivery to compensate for these changes, primarily due to an increase in stroke volume and heart rate and a steady reduction in systemic vascular resistance. Timely assessment and management of postpartum stroke are of paramount importance as it carries a mortality rate of 2% - 10% The management of postpartum stroke is challenging because of pregnancy being an exclusion criterion for reperfusion therapy. Although intravenous thrombolysis has shown to reduce morbidity in non - pregnant women, its safety and efficacy in the early postpartum period are not well established

4. Conclusions

Postpartum ischemic stroke is rare but can occur in the postpartum period especially even after vaginal delivery. Due to the above mentioned challenges associated with its diagnosis and management, high - risk women should be identified and monitored in the postpartum period for thrombotic complications. Protocols for secondary prevention such as blood pressure and diabetes management should be implemented, and extending the recommended duration of prophylactic anticoagulant therapy may be considered after careful assessment of risk to benefit ratio.

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