Beyond morning sickness: Unmasking cerebral venous sinus thrombosis in early pregnancy

Deventhari Ramanaidoo, Woo Wing Hang

Hospital Pontian, Pontian, Johor

ABSTRACT

Introduction: Cerebral venous sinus thrombosis (CVT) is a rare but serious cause of stroke in pregnancy, accounting for 0.5%-1% of all strokes, due to hypercoagulability. While CVT is more commonly reported in the postpartum period, its occurrence in early pregnancy is rare and often misdiagnosed due to nonspecific symptoms overlapping with common pregnancy-related conditions. We report a case of CVT in the first trimester, initially misdiagnosed as hyperemesis gravidarum, to emphasise the importance of early recognition and timely intervention. **Case Description:** A 25-year-old primigravida at 10 weeks of gestation, with no prior medical history, non-obese, presented with persistent nausea, vomiting and poor oral intake for 1 week, followed by headache over 3 days. She was initially diagnosed with hyperemesis gravidarum and admitted for supportive care. On Day 2 of admission, she developed acute delirium, prompting further evaluation. Neurological examination revealed confusion and disorientation, but no other focal deficits. The patient was immediately transferred to the tertiary centre for further evaluation. Routine blood tests, including inflammatory markers and thrombophilia screening, were unremarkable. A contrast-enhanced CT venography (CECT) reveals cerebral venous sinus thrombosis at the posterior inferior sagittal sinus, great vein of Galen, straight sinus and right transverse sinus with bilateral thalamic oedema. The patient was promptly started on therapeutic low-molecular-weight heparin (LMWH), and her neurological symptoms gradually improved with anticoagulation. She was continued on LMWH throughout pregnancy and for six weeks postpartum, with close multidisciplinary follow-up involving obstetrics and neuromedical. **Discussion:** CVT in pregnancy is well-documented in the postpartum period but is underreported in the first trimester, often due to diagnostic challenges. In this case, the symptoms mimicked hyperemesis gravidarum, delaying recognition. Pregnancy-related hypercoagulability, dehydration, and hormonal changes contributed to the risk. Neuroimaging is crucial for early diagnosis, with MRI/MR venography being the gold standard. In resource-limited settings, CT venography serves as an alternative. Our case underscores the need for heightened clinical suspicion and prompt imaging in pregnant patients presenting with persistent or atypical headaches, altered mental status, or neurological symptoms. The International Study on Cerebral Vein and Dural Sinus Thrombosis (ISCVT) has shown that early anticoagulation with LMWH significantly improves outcomes, as seen in this case. **Conclusion:** CVT in early pregnancy is rare but potentially life-threatening. This case highlights the need for increased awareness among clinicians, early neuroimaging in persistent headaches or altered mental status, and prompt anticoagulation to prevent complications.