Intrathecal hemorrhage in severe preeclampsia causing spinal cord compression in a concealed pregnancy

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ABSTRACT

Background: Neurological complications of severe preeclampsia are most commonly cerebral, with seizures and posterior reversible encephalopathy syndrome (PRES) being well recognized. Spinal cord involvement is exceptionally rare, and intrathecal hemorrhage causing spinal cord compression has been sparsely reported. When occurring in the context of a concealed pregnancy, such presentations pose a significant diagnostic challenge in the emergency department. Early recognition is critical to prevent irreversible neurological injury. This case highlights a rare dual neurological complication of severe preeclampsia and emphasizes the importance of maintaining a high index of suspicion in emergency care.

Clinical Case: A 38-year-old previously healthy woman presented to the emergency department with sudden-onset bilateral lower limb weakness, urinary retention, and progressive abdominal distension. She denied being pregnant. A point-of-care ultrasound performed to evaluate abdominal distension revealed a live intrauterine fetus at approximately 34 weeks of gestation. Her blood pressure was 200/110 mmHg, and urinalysis demonstrated 3+ proteinuria, consistent with severe preeclampsia. She also reported visual disturbances. Non-contrast computed tomography of the brain showed features consistent with PRES. Neurological examination revealed flaccid paralysis of both lower limbs (power 0/5), hyperreflexia, and a sensory level at the thoracic vertebral level 6, with no spinal tenderness. Initial management included intravenous antihypertensives and magnesium sulfate for seizure prophylaxis. Due to maternal instability, an emergency cesarean section was performed under general anesthesia. Postpartum magnetic resonance imaging of the spine demonstrated an intrathecal hemorrhagic collection in the thoracic region, causing significant spinal cord compression. The patient underwent urgent surgical evacuation of the hematoma, with gradual neurological improvement following intervention.

Conclusion: This case illustrates a rare and complex presentation of severe preeclampsia with simultaneous cerebral and spinal complications - PRES and intrathecal hemorrhage causing spinal cord compression - in a concealed pregnancy. The diagnostic complexity underscores the need for vigilance when evaluating hypertensive emergencies with neurological deficits in women of reproductive age. Early multidisciplinary involvement and timely neurosurgical intervention are essential to optimize neurological recovery and maternal outcomes.

Keywords: Severe preeclampsia, intrathecal hemorrhage, spinal cord compression, posterior reversible encephalopathy syndrome, concealed pregnancy, emergency medicine.