

## Vertebral Artery Dissection Complicating Pregnancy and Puerperium: Case Report and Review of the Literature

**Authors :** N. Reza Pour, S. Chuah, T. Vo

**Abstract :** Background: Vertebral artery dissection (VAD) is a rare complication of pregnancy. It can occur spontaneously or following a traumatic event. The pathogenesis is unclear. Predisposing factors include chronic hypertension, Marfan's syndrome, fibromuscular dysplasia, vasculitis and cystic medial necrosis. Physiological changes of pregnancy have also been proposed as potential mechanisms of injury to the vessel wall. The clinical presentation varies and it can present as a headache, neck pain, diplopia, transient ischaemic attack, or an ischemic stroke. Isolated cases of VAD in pregnancy and puerperium have been reported in the literature. One case was found to have posterior circulation stroke as a result of bilateral VAD and labour was induced at 37 weeks gestation for preeclampsia. Another patient at 38 weeks with severe neck pain that persisted after induction for elevated blood pressure and arteriography showed right VAD postpartum. A single case of lethal VAD in pregnancy with subsequent massive subarachnoid haemorrhage has been reported which was confirmed by the autopsy. Case Presentation: We report two cases of vertebral artery dissection in pregnancy. The first patient was a 32-year-old primigravida presented at the 38th week of pregnancy with the onset of early labour and blood pressure (BP) of 130/70 on arrival. After 2 hours, the patient developed a severe headache with blurry vision and BP was 238/120. Despite treatment with an intravenous antihypertensive, she had eclamptic fit. Magnesium sulfate was started and Emergency Caesarean Section was performed under the general anaesthesia. On the second day after the operation, she developed left-sided neck pain. Magnetic Resonance Imaging (MRI) angiography confirmed a short segment left vertebral artery dissection at the level of C3. The patient was treated with aspirin and remained stable without any neurological deficit. The second patient was a 33-year-old primigravida who was admitted to the hospital at 36 weeks gestation with BP of 155/105, constant headache and visual disturbances. She was medicated with an oral antihypertensive agent. On day 4, she complained of right-sided neck pain. MRI angiogram revealed a short segment dissection of the right vertebral artery at the C2-3 level. Pregnancy was terminated on the same day with emergency Caesarean Section and anticoagulation was started subsequently. Post-operative recovery was complicated by rectus sheath haematoma requiring evacuation. She was discharged home on Aspirin without any neurological sequelae. Conclusion: Because of collateral circulation, unilateral vertebral artery dissections may go unrecognized and may be more common than suspected. The outcome for most patients is benign, reflecting the adequacy of the collateral circulation in young patients. Spontaneous VAD is usually treated with anticoagulation or antiplatelet therapy for a minimum of 3-6 months to prevent future ischaemic events, allowing the dissection to heal on its own. We had two cases of VAD in the context of hypertensive disorders of pregnancy with an acceptable outcome. A high level of vigilance is required particularly with preeclamptic patients presenting with head/neck pain to allow an early diagnosis. This is as we hypothesize, early and aggressive management of vertebral artery dissection may potentially prevent further complications.

**Keywords :** eclampsia, preeclampsia, pregnancy, Vertebral Artery Dissection

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