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DOI: [10.1159/000332089](https://doi.org/10.1159/000332089)**Spontaneous Multiple Cervical Artery Dissection in the Puerperium**

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Introduction

Cervical artery dissection (CAD) is an important cause of stroke in young adults and can occur in multiple arteries in 13–16% of cases. Surprisingly, CAD has rarely been reported as a cause of stroke in pregnancy/puerperium [1, 2]. We report a case of a young women presenting with a four-vessel CAD postpartum.

Case Report

A 31-year-old female with a past history of migraine presented with a transient episode of anosognosia, dysarthria and left hemiparesis 18 days after an uncomplicated caesarean section under general anaesthesia, planned beforehand due to a spina bifida defect. She complained of a sudden onset of posterior neck pain on the fifth day after childbirth, followed by repeated attacks of migraine with visual aura. Examinations performed at the emergency department, a brain CT and laboratory tests were all unremarkable. Cervical ultrasonography revealed a proximal occlusion of the right internal carotid artery (ICA), a distal left ICA occlusion and left vertebral artery (VA) stenosis. Digital-subtraction angiography showed a right ICA dissection with suprabulbar occlusion and a left ICA dissection as well as VAs with irregular walls ('string of beads' appearance suggesting vessel stenosis and pseudoaneurysm formation) (fig. 1a, c, e, g). Previous orthopaedic surgery contraindicated MRI, and anticoagulation therapy was started. The headaches progressively remitted. Four-month follow-up cerebral and renal digital-subtraction angiography showed a persistent right ICA occlusion, but all other arteries were normal (fig. 1b, d, f, h).

Fig. 1. Four-vessel dissection with right ICA suprabulbar occlusion (a), left ICA luminal narrowing with irregularity (c) and 'string of beads' appearance of the VAs with pseudoaneurysm formation (e, g). At the 4-month follow-up, the right ICA occlusion persisted (b) and all the other arteries were normal (d, f, h).

Discussion

Expulsive efforts during labour have been proposed as a precipitating factor for postpartum CAD. de Bray et al. [3] analysed a series of 7 postpartum CAD cases, together with 6 previously reported cases. In these patients, diagnosis was made within 10 days, and head/neck pain was present within 3 days after delivery, which was vaginal in most of the cases. Dissections were bilateral in 4 cases, and a diagnosis of fibromuscular dysplasia was suggested in 5 patients [3]. In another study [4] comparing 6 postpartum CAD with 96 non-postpartum CAD cases, 5 patients had CAD involving multiple vessels and all but one had uneventful vaginal deliveries. Spontaneous four-vessel CAD in this setting has only been reported once until now, although in the context of a prolonged vaginal labour [5]. Our patient had a similar clinical picture; however, as an elective caesarean section was performed, CAD cannot be attributed to labour effort. Furthermore, fibromuscular dysplasia was not confirmed.

Additionally to the typical posterior neck pain, our patient had several attacks of migraine with aura. Migraine, especially with aura, is a risk factor for CAD [6] and has been reported in postpartum CAD [4].

Arnold et al. [4] reported an association between reversible cerebral vasoconstriction syndrome and postpartum CAD. In our patient, apart from CAD, segmental reversible stenosis of the cervical vessels was observed, but there were no intracranial vessel abnormalities. Despite the unclear association between puerperium and arterial dissection, transient wall abnormalities induced by postpartum hormonal changes have been suggested as explanations [7]. Recurrence of dissection is rare and more frequent within the first 2 months after the initial event, reinforcing the possibility of a transient vascular disorder [8].

In our case, although we cannot exclude a minor trauma induced by neck hyperextension during general anaesthesia [9], we hypothesize that a transient cervical artery vasculopathy contributed to the patient's four-vessel CAD.

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