



Vertebral artery dissection after cervical manipulation in postpartum period: a case report.

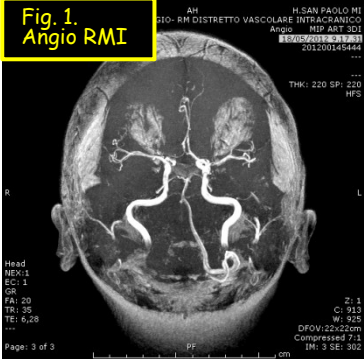
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BACKGROUND

Cervical artery dissection represents 20% of ischemic strokes in young adults under 45 years of age and about 2% of all ischemic strokes. Manual cervical spine manipulation is a therapeutic procedure that might cause cerebral insults, primarily dissection of vertebral artery (VA)^{1,2}. Adverse events from spinal manipulation in the pregnant and postpartum periods are matter of debate among manual therapists³.

CASE REPORT

Fig. 1. Angio RMI



A 34-year-old woman in good previous health, three weeks postpartum, underwent a cervical manipulation for occipital headache and neck pain that had appeared some days before. During the manoeuvre, the patient felt a snapping sensation in her neck. Immediately after the manipulation, she experienced severe throbbing headache and worsening neck pain. Two days later, she woke up with vertigo, nausea, right hemifacial paraesthesia that gradually involved all the homolateral hemisoma, hyposthenia of the right limbs and swallowing disorder. Immediately, she was recovered at San Paolo Hospital in Milan. At admission, the patient was awake, suffering, with nystagmus and right facial-brachial-cranial hemisyndrome. Brain MRI was normal.

Supra-aortic trunks (SAT) MRI did not show the right VA (Fig. 1). SAT angio-TC showed the right VA with filiform aspect at C2-C3 level and without opacification over C2; there was no aneurysmal dilatation of the Willis' polygon (Fig. 2).

A week later, the patient was dismissed on a regimen of anticoagulant therapy with diagnosis of 'acute posterior circulation cerebral ischemia associated with vertebral artery dissection'. Then, she was admitted in the Rehabilitation Unit, where she underwent intensive rehabilitation treatment with total functional recovery.

DISCUSSION

The hypothetical mechanism of VA damage during rotation of the neck involves the con-

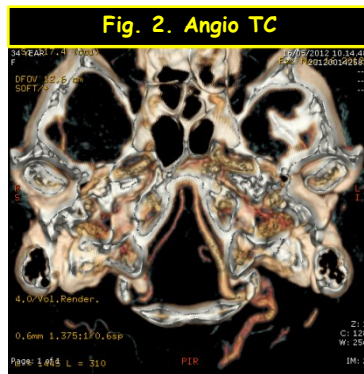


Fig. 2. Angio TC

tralateral side of C1 being propelled forward, which is supposed to stretch the right VA during left cervical rotation (Fig. 3)². The typical course of VA dissection involves vigorous neck pain followed by nonspecific symptoms such as vertigo, tinnitus, or nausea. Neurological deficits may occur hours or days later. Before any rotational manipulation of cervical spine, patients should be carefully evaluated in order to identify their risk of adverse events and of vascular vulnerability. In particular, prothrombotic state and joint laxity of pregnant or postpartum patients should be treated with additional care and consideration. Because of possible life-threatening injuries, neck manipulations should be avoided in pregnant and postpartum women.

REFERENCES

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- 2 - Haneline M, Triano J. Cervical artery dissection. A comparison of highly dynamic mechanisms: manipulation versus motor vehicle collision. *J Manipulative Physiol Ther.* 2005 Jan;28(1):57-63. Review.
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AngioRMI 3 months later

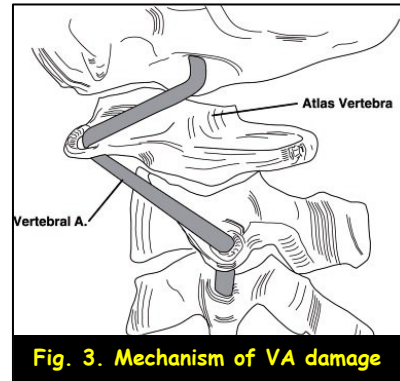
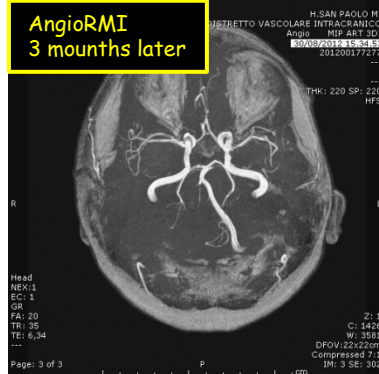


Fig. 3. Mechanism of VA damage