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CHIROPRACTIC TREATMENTS AND STROKE WITH ARTERIAL DISSECTION IN AN INFANT

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INTRODUCTION: Chiropractic treatments for young children are common despite the lack of pediatric safety data. In adult, epidemiologic associations have been recognised between chiropractic manipulation of neck and cerebral vascular events. We report a 6-month-old with acute arterial ischemic stroke and carotid artery dissection temporally associated with chiropractic cervical manipulation. Although it is challenging to establish causality in such cases, it is important to report these associations in order to objectively discuss the risks of such treatments in younger children.

METHODS: A 6-month old girl, previously healthy presented with acute onset of decreased arousability, loss of head control, poor feeding and vomiting of 2 days. There was no history of fever, seizures, loss of consciousness or trauma. There was also no history of recent travel or sick contacts. Perinatal and family history were unremarkable. Around 8 weeks prior to this presentation, parents had initiated a course of chiropractic treatments including manipulation of the neck. On the day of presentation, after the onset of symptoms, she received another chiropractic treatment. Examination showed right hemiparesis, right facial palsy, torticollis with eye deviation to the left side. CT Head revealed a large acute left middle cerebral artery (MCA) territory infarct with loss of grey-white differentiation in the left frontal, temporal and parietal lobes, insula, as well as the basal ganglia. CT Angiography demonstrated dissection of the right internal carotid artery (ICA). Systemic anticoagulation and neuroprotective measures were initiated. MRI/MRA confirmed the left MCA infarct and an abrupt occlusion of the left ICA at the carotid terminus. Echocardiography showed a patent foramen ovale with left to right shunt and no intracardiac thrombus. Tests for inherited or acquired thrombophilic states were negative.

RESULTS: Although many studies in adults have emphasized the association of cervical manipulation with stroke, a few have been reported in the pediatric. The safety profile of these maneuvers is questionable and only meticulous reporting of such cases will help health care professionals provide confident evidence-based advice to parents regarding life-threatening complications associated with chiropractic treatments in young children.