



Recognition of Spontaneous Vertebral Artery Dissection Preempting Spinal Manipulative Therapy: A Patient Presenting With Neck Pain and Headache for Chiropractic Care



Ross Mattox DC ^{a,*}, Linda W. Smith DC ^b, Norman W. Kettner DC, DACBR, FICC ^c

^a *Diagnostic Imaging Resident, Department of Radiology, Logan University, Chesterfield, MO*

^b *Chiropractic Physician, Private Practice, St. Louis, MO*

^c *Chair, Department of Radiology, Logan University, Chesterfield, MO*

Received 22 January 2014; received in revised form 13 April 2014; accepted 16 April 2014

Key indexing terms:

Chiropractic;
Manipulation;
Spinal;
Vertebral artery
dissection;
Stroke

Abstract

Objective: The purpose of this case report is to describe a patient who presented to a chiropractic physician for evaluation and treatment of neck pain and headache.

Clinical features: A 45-year-old otherwise healthy female presented for evaluation and treatment of neck pain and headache. Within minutes, non-specific musculoskeletal symptoms progressed to neurological deficits, including limb ataxia and cognitive disturbances. Suspicion was raised for cerebrovascular ischemia and emergent referral was initiated.

Intervention and outcome: Paramedics were immediately summoned and the patient was transported to a local hospital with a working diagnosis of acute cerebrovascular ischemia. Multiplanar computed tomographic and magnetic resonance imaging with contrast revealed vertebral artery dissection of the V₂ segment in the right vertebral artery. Anticoagulation therapy was administered and the patient was discharged without complications after 5 days in the hospital.

Conclusion: This case highlights the potential for patients with vertebral artery dissection to present with nonspecific musculoskeletal complaints. Neurological symptoms may not manifest initially, but their sudden onset indicates the possibility of an ischemic cerebrovascular event. We suggest that early recognition and emergent referral for this patient avoided potential exacerbation of an evolving pre-existing condition and resulted in timely anticoagulation treatment.

© 2014 National University of Health Sciences.

Introduction

The development of vertebral artery dissection (VAD) arises randomly and unpredictably from neck

* Corresponding author. 1851 Schoettler Rd., Chesterfield, MO 63017. Tel.: +1 636 230 1831; fax: +1 636 207 2429.
E-mail address: ross.mattox@logan.edu (R. Mattox).

movement and may occur prior to, during, or following spinal manipulative therapy (SMT) regardless of force load or neck position during manipulation.¹ Arterial dissection occurs when blood penetrates a tear in the intimal layer of the artery and a mural hematoma develops within the tunica media.² Dissection of the VA is a rare event, with an estimated incidence of 0.97 to 1.12 per 100 000 individuals per year.³

Stroke is the most clinically important complication of VAD and causes neurological symptoms that may establish an unequivocal diagnosis. One study reported that in a group of 108 patients under 45 years of age diagnosed with vertebrobasilar stroke, 8 (7.8%) had visited a chiropractic physician within 7 days of their diagnosis⁴; however, it was not clear if these strokes resulted from VAD or were due to other causes, such as thromboembolism from another vessel. The clinical diagnosis of a VAD is difficult when stroke or transient ischemic attack have not occurred, as it may be asymptomatic or present with only symptoms of neck pain.⁵

The most common clinical manifestations of VAD are neck pain and headache, which may or may not be followed by posterior circulation ischemia.^{3,6} Neck pain and headache in such a case could easily be mistaken as musculoskeletal in origin, such as the myofascial pain syndrome.⁷ It is possible that patients with VAD seek medical or chiropractic attention due to the associated neck pain and headache.⁴ There is a possibility for SMT to be performed on a patient with a VAD in progress, thus potentially exacerbating the condition.^{1,8}

The purpose of this case report is to describe the presentation of a patient with a VAD in progress presenting to a chiropractic physician for evaluation and treatment of a new episode of neck pain and headache.

Case Report

A 45-year-old white female, well-nourished and employed as a school administrator, presented to a chiropractic clinic complaining of upper back/neck pain and stiffness as well as headache and pain in the posterior portion of the right arm down to the elbow of 3 days duration. Her level of discomfort progressed in severity in the 24 hours prior to presentation, which is what prompted her appointment. Because this was a new complaint, an updated history and examination

were performed. No history of trauma was disclosed. Physical examination revealed painful and limited active range of motion in the cervical region. Palpation was provocative for tenderness. After the initial examination, a working diagnosis of myofascial pain syndrome was established. Therapeutic ultrasound (Chattanooga Medical Supply, TN) was applied (4 minutes, 1 W/cm² at 1 MHz) in the seated position over the suboccipital and posterior cervical musculature. While still in the seated position, soft tissue treatment was performed by a licensed massage therapist on the suboccipital and posterior cervical musculature. The patient was shown to a treatment room and was supine when the clinician entered and asked how she felt. The patient responded that her neck pain was much better, but she was more aware of her headache. The patient was assisted to the seated posture, became dizzy, reported visual and cognitive disturbances, and had difficulty speaking. She proceeded to lose control of her right leg, which spontaneously assumed a flexion contracture. The clinician suspected a vascular etiology at this time and SMT was not performed. Paramedics were immediately summoned and the patient was transported to a local hospital with a working diagnosis of acute cerebrovascular ischemia.

Computed tomography (CT) of the head and neck (with and without contrast) and a chest film were performed. The chest exam was negative. The CT demonstrated 50% stenosis of the right vertebral artery (VA) extending from C5 cephalad to C3 without irregularity either proximal or distal to those levels (Fig 1). Also noted were subtle findings in both distal

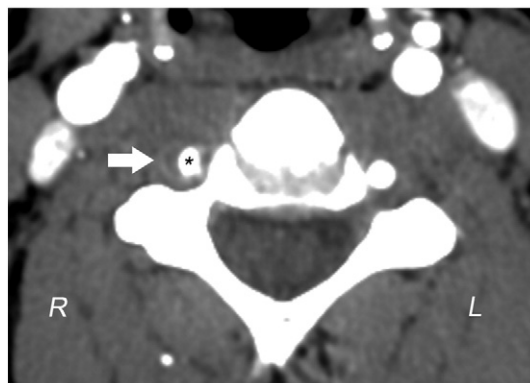


Fig 1. CTA with intravenous contrast at the level of C5 demonstrates a crescent-shaped mural thickening with annular enhancement (arrow) around a narrowed lumen of the right vertebral artery (asterisk).

Download English Version:

<https://daneshyari.com/en/article/2619907>

Download Persian Version:

<https://daneshyari.com/article/2619907>

[Daneshyari.com](https://daneshyari.com)