

# A Massage Did What?

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## ABSTRACT

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## Opinion

Internal Carotid Artery (ICA) dissection is a condition that occurs when a layer of the arterial wall begins to tear which may form a clot that limits blood flow. It is characterized by pain over the head, face or neck. Some may present with pulsatile tinnitus or visual disturbances. It is an uncommon cause of ischemic stroke that can occur in the setting of trauma or even spontaneously. It is usually related to an underlying connective tissue disease such as, Marfan or Ehlers-Danlos. But it can also present in those with fibromuscular dysplasia or atherosclerosis. Here we present a case of ICA dissection following manual manipulation.

A 46-year-old female with a past medical history significant for fibromyalgia, occipital neuralgia and a ruptured spinal disc presented to the ED with a two-week history of worsening intermittent headaches and a pulsatile bruit in her left ear. The patient reported a family history of cerebral aneurysms in her maternal grandmother. CT angiogram revealed left ICA dissection at the level of C1. Patient was hemodynamically stable and upon further questioning revealed that two weeks prior to presentation she went for a massage. Patient reported that she regularly undergoes therapeutic massages due to neck and upper back tension. During the massage, the patient reported feeling a sudden sharp posterior neck pain that resolved. However, patient had a headache and a "whooshing" sound in her left ear that waxed and waned over the two weeks with associated symptoms of dizziness, vertigo as well as, mild nausea.

Vascular surgery was consulted and recommended neuro-interventional radiology to evaluate the patient as surgical

intervention would not be appropriate. MRI head showed no evidence of stroke. Neuro-IR performed a diagnostic angiography and catheterization which revealed a left ICA dissection and pseudo-aneurysm over the left high cervical ICA with mild flow limitation. Incidentally, the patient was also found to have fibromuscular dysplasia during the angiography. Upon discharge patient was to continue aspirin 81 mg daily with close follow up with neurology in three months for repeat cross sectional imaging. She was to refrain from any manual manipulation or massaging of the neck as well as, abstinence from any activities that can worsen dissection.

This case illustrates the importance of prompt diagnosis and follow up. It demonstrates that people at increased risk for certain conditions should be aware of manual manipulation with respect to ICA dissection. In this case, therapies that have once thought to be benign may be harmful under certain circumstances. Given this patient's family history and undiagnosed fibromuscular dysplasia she was at a higher risk for ICA dissection. However, even in the general population blunt trauma to the neck, chiropractic manipulation, or neck hyperextension can all lead to this condition. Recognition of this syndrome is critical to the institution of appropriate workup and treatment.

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