Abstract
Carotid artery dissection occurs in middle-aged individuals with an incidence of 0.003%\(^1\). More than 70% of patients present with a TIA (transient ischemic attack) \(^1\)\(^2\). Other manifestations include ischemic stroke, headache, neck pain, Horner syndrome, cranial nerve palsy and pulsatile tinnitus. We describe a case of a 33-year-old female who had left-sided pulsatile tinnitus for four months. On physical examination there was evidence of an audible bruit and bluish lesion in the left inferior aspect of the tympanic membrane. On subsequent MRI/MRA there was a notable petrous internal carotid artery dissection. Herein we review the literature and describe treatment of this condition.

Introduction
Dissection of the intracranial internal carotid artery (ICA) is rare and responsible for less than 2% of all ischemic strokes, of which 10-20% are in young and middle-aged patients\(^3\). Isolated ICA dissection involving the intrapetrous carotid canal is very rare, likely due to the immobility of the petrous portion of the carotid. It has been reported that patients present with headaches at the orbital or temporal area, Horner’s sign or ischemia-related symptoms\(^3\). The main risk factors related to carotid artery dissection are genetic, traumatic, cervical manipulations, migraine, infections\(^3\). There are no reported incidents published to date identifying pulsatile tinnitus as initial symptom of dissection.

Case Report
Our patient is a 33-year-old female emergency medicine physician who developed sudden onset left-sided pulsatile tinnitus. She noted this interfered with the usage of her stethoscope. She denied a notable inciting event. She noted that she had recently moved, involving lifting of boxes. She denied hearing loss, worsening of noise, otorrhea, otalgia. She had no previous history of ear surgery or usage of ototoxic medications. She denied previous history of head trauma. Her past medical history was only significant for seasonal allergies. On physical examination there was evidence of an audible bruit and bluish lesion in the left inferior aspect of the tympanic membrane. Her weber was midline and Rinne positive at 512, 1024 Hz.

On subsequent MRI/MRA there was notable petrous internal carotid artery dissection. Patient was referred to neurology and started on anticoagulation. On one year follow-up her symptoms and imaging has improved but not completely healed. Endovascular stenting has been discussed with her; however, given stability of her neurologic status she is continuing conservative management with close follow-up.

Conclusions
Dissection confined to the petrous ICA is rare, with most patients present with orbital or temporal headaches, Horner’s sign or ischemia-related symptoms. We demonstrate that patients can also present with isolated symptoms of tinnitus as seen in our case presentation. Conservative treatment is the preferred choice given the anatomically inapproachable location of intracranial ICA dissection\(^3\). There is no conclusive evidence to confirm benefit of carotid stenting in these patients\(^3\).

References

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