Glossopharyngeal neuralgia caused by an arachnoid cyst of the cerebellopontine angle

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INTRODUCTION
Glossopharyngeal neuralgia (GPN) is a rare facial pain disorder in which patients experience sharp stabbing pains in the posterior tongue and pharyngeal region. This is typically triggered by certain common actions like swallowing or opening the mouth widely, and corresponds to the sensory distribution of the glossopharyngeal nerve.¹⁻² GPN is most commonly caused by vascular compression, but rare cases have been reported due to compression by tumors at the cerebellopontine angle.³ In this case report, we describe only the second reported instance of glossopharyngeal neuralgia caused by an arachnoid cyst.

CASE REPORT
A 48 year old previously healthy woman presented to our otolaryngology clinic for evaluation of severe throat and mouth pain. For the past several months she had been experiencing intermittent stabbing pains in the right submandibular region and floor of mouth. This seemed to occur randomly and could not be attributed to specific actions like chewing, yawning or swallowing. The throat and mouth pain was also associated with right-sided otalgia, headaches and subjective right-sided hearing loss. Physical exam showed patent external auditory canals bilaterally with mildly sclerotic tympanic membranes. Her mouth revealed normal mucosa with no visible or palpable masses, and intact hypoglossal and lingual (light touch) nerve function bilaterally. Likewise, her cranial nerve exam was grossly normal. A neck CT revealed a 2-3 mm outpouching at the terminus of the right internal carotid artery (ICA). She was referred to neurosurgery for management of the aneurysm, though this was felt to be an unlikely source of her pain. Subsequent magnetic resonance imaging (MRI) revealed a right cerebellopontine angle (CPA) mass, consistent with an arachnoid cyst. She underwent craniotomy via retrosigmoid approach for resection and fenestration of the cyst.

DISCUSSION
Glossopharyngeal neuralgia (GPN) is a rare facial pain syndrome characterized by sporadic pain along the distribution of the ninth cranial nerve. Patients often describe this pain as sharp and stabbing, with triggers including common activities like swallowing, chewing or yawning.¹⁻² In approximately 10% of patients with GPN, other symptoms such as bradycardia, hypotension, and syncopal episodes can also occur due to corresponding effects on the vagus nerve.³ In fact, early treatment of this condition with rhizotomy were typically only successful when the upper rootlets of the vagus nerve were transected as well, leading some investigators to refer to this condition as “vagoglossopharyngeal neuralgia”.⁴ The majority of cases of GPN result from vascular compression as the nerve exits the upper ventrolateral medulla, just below the acoustic nerve, or at the jugular foramen.⁵⁻⁶ A large number of cases are idiopathic and may potentially be caused by severe demyelination and axon degeneration.⁵ Some case reports, however, have noted GPN caused by tumor compression of the nerve at the cerebellopontine angle (CPA).⁴⁻⁵ Our case report identifies only the second known instance of GPN caused by an arachnoid cyst.⁴

REFERENCES