Objective/Hypothesis: The goal of this study was to elucidate the radiologic findings of Hyoid Compression Syndrome (HCS) and how this uncommon condition is distinguished from related pain syndromes such as Eagle’s Syndrome or glossopharyngeal neuralgia. Additionally, this study set out to describe treatable symptoms from within the spectrum of HCS-associated symptoms.

Study Design: Prospective open design.

Methods: HCS patients were collected from a single tertiary academic center within a 12-month period. Surgical planning was done with the collaboration of surgical and radiologic teams. Patients completed the validated Neck Disability Index (NDI) survey as well as a subjective questionnaire preoperatively and 6-months postoperatively.

Results: Two HCS patients were treated with surgical resection. Preoperative CT imaging revealed impingement of the carotid artery by the greater cornu of the hyoid bone and provocative imaging in the symptomatic position demonstrated carotid artery compression on the affected side. Postoperative imaging showed resolution of compression. Patients reported overall NDI improvement of 10% and 4%. While many of the NDI domains failed to show improvement, the headache domain maintained substantial and consistent improvement. Substantial headache improvement was reinforced based on patient subjective data. Both patients displayed postoperative improvement in blurred vision.

Conclusion: HCS is an uncommon, but significant, cause of neck and facial pain. The syndrome typically presents within a constellation of related symptoms which can further compound the diagnosis. However, prompt radiologic diagnosis should lead to surgical intervention which should demonstrate reduction in headaches and patient-specific symptomatic improvement.

METHODS AND MATERIALS

HCS patients were collected from a single tertiary academic center within a 12-month period. We encountered two patients who underwent surgical resection of the hyoid bone to alleviate symptoms consistent with hyoid bone compression syndrome. As HCS symptoms are poorly defined, patients completed the validated Neck Disability Index (NDI) survey as well as a subjective questionnaire preoperatively and 6-months postoperatively as a measure of symptomatology improvement. Due to the small sample size, a statistical analysis of the questionnaires was not appropriate.

CASE 1

A 55-year old female complained of bilateral neck pain and paresthesias of the face, neck, and pharynx for several years, exacerbated with head turning in either direction. Additionally, she experienced severe, migraine-like headaches as well as milder temporal headaches. Physical examination revealed numbness of her tongue, pharynx and oral cavity areas upon compression of the hyoid. Review of her computed tomography (CT) imaging (see Figure 1) revealed compression of the left and right common carotid arteries, especially upon head turning, as well as elongation of the right thyroid ala. She underwent bilateral resection of the greater cornu of the hyoid bone, as well as resection of the right superior thyroid cornu. Seven months postoperatively the patient questionnaires revealed substantial improvement specifically within her headaches and blurred vision. Her NDI showed 10% reduction in symptoms.

CASE 2

A 40-year-old female complained of left facial and neck numbness, as well as intermittent headaches and neck pain, exacerbated upon head turning. She denied difficulty swallowing, throat or tonsilar pain or numbness. Her prior history was significant for cervical migraines headaches and severe, migraine-like headaches as well as milder temporal headaches. Physical examination was significant for decreased sensation in the left hemifacial distribution compared to the right. Abutment of the hyoid bone on the external carotid artery on the left side was seen in both the head neutral and head turned-position (see Figure 2). Surgical resection of the left greater cornu of the hyoid was performed (see Figure 3). Seven months postoperatively the patient questionnaires revealed improvement in her headaches and neck soreness. Interestingly, the patient also noted a significant improvement in nighttime snoring postoperatively. She also experienced a mild (4%) reduction in NDI.

CONCLUSIONS

Hyoid compression syndrome is an important condition which can be difficult to diagnose and easily confused with other head and neck pain syndromes, but should be considered in patients with atypical neck or facial pain. It is important to have a high index of suspicion and clinical knowledge of this pain syndrome, as well as radiologic evidence to aid in diagnosis. Once an accurate diagnosis is made, surgical resection of the hyoid should help to alleviate symptoms which can be ascribed to HCS, such as headache and neck pain.

REFERENCES