AN EXTREMELY RARE AND INSIDIOUS PARAPHARYNGEAL SPACE TUMOR

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Abstract

Introduction: This is a case of a 64-year-old female with an unusually large lipomatous lesion of the left face, neck, and skull base.

Methods: Review of patient’s clinical, radiographic, and histopathologic records as well as literature review.

Results: The patient was initially evaluated in the Laryngology clinic for progressive idiopathic subglottic stenosis, and a subtle fullness of the left side of the face prompted further evaluation. Imaging studies that were obtained in part to look at the subglottic stenosis revealed a very impressive mass lesion with the consistency of fat, diffusely involving the left parapharyngeal space, infratemporal fossa, and neck with compression and displacement of the great vessels. Management of the growing lesion involved presurgical infratemporal approach for resection of tumor. Final pathology was consistent with lipoma with no features of malignancy. Surgical morbidity included injury to sympathetic plexus leading to Horner’s syndrome and first- and first-bite syndrome. The patient had no signs of recurrence.

Conclusions: Benign lipomas are rarely encountered in the skull base, and safe surgical resection of suspicious lesions can provide definitive diagnosis with minimal morbidity.

Introduction

The parapharyngeal space (PPS) can be thought of as an inverted pyramid with its base along the skull base and its apex at the greater cornu of the hyoid bone. It can be divided into pre-styloid and post-styloid compartments by the fascia running between the styloid process and tensor veli palatini. The pre-styloid space includes salivary tissue, fat, and the retromandibular portion of the deep lobe of parotid gland. The post-styloid compartment contains major neurovascular structures including the internal carotid artery, internal jugular vein, cranial nerves IX-XII, and the cervical sympathetic chain.

Lesions in the parapharyngeal space are rare in the head and neck, occurring as less than 1% of all head and neck tumors. Most lesions tend to grow slowly, present subely, and are benign. The most common symptoms are introral or neck mass, ear pressure/otalgia, and dysphagia; the most common signs are medial displacement of tonsil on introral exam and palpable neck mass.

Surgical access to the PPS can be accomplished through various approaches including transcervical and transoral, with the former approach being more commonly used to remove tumors.

Clinical Presentation

A 64-year old female being followed in the Laryngology clinic for progressive idiopathic subglottic stenosis was noted to have a subtle left-sided facial fullness. She denied symptomatic changes including pain, numbness, or skin changes. The subglottic stenosis had been managed with endoscopic procedures, with excellent results. An imaging study performed to evaluate the airway revealed an impressive mass involving the left parapharyngeal space, infratemporal fossa, and neck.

The patient’s past medical history, up to 2010 when the subglottic stenosis developed, was essentially completely unremarkable. She was a smoker up until the 1980s.

On physical exam, there was a significant asymmetry of the lower face and upper neck, related to a left sided soft tissue swelling deep under the skin but no discrete palpable nodular mass. The areas of swelling were without tenderness, erythema, or fluctuance. The mass had the consistency of fat. Otherwise her exam was normal.

Radiographically, there was a very large soft tissue density mass occupying the infratemporal fossa, parapharyngeal space, and lateral neck on the side. The mass significantly displaced the internal jugular vein and internal carotid artery, and it abutted the skull base without osseous erosion. Because the lesion was growing on serial imaging studies, the decision was made to excite it.

Discussion

Lipomatous lesions of the skull base, especially in the infratemporal fossa and parapharyngeal space are exceedingly rare. We believe this is the 11th such case reported in the English literature.

Like other skull base lesions, tumors of the PPS may present a diagnostic and surgical challenge to surgeons, and surgical excision may be required for diagnosis. Most lesions tend to grow slowly over time and present subtly. Most masses (approximately 80%) involving the parapharyngeal space are histologically benign. However, this case demonstrates that histologically benign tumors can occupy critical areas and may necessitate multidisciplinary approach. A vascular surgeon was available during the surgery in case vessel sacrifice was a possibility.

Surgical access to the PPS can be accomplished through various approaches, and this patient had a pre-auricular transfacial approach. She has been followed for over 2 years since surgery. Post-operatively, the patient did experience “first bite” syndrome for a few months, but it has improved. Occasionally, she did have signs of a Horner’s syndrome and facial dysautonomia secondary to surgery. Otherwise she has done well and shows no signs of recurrence.

Contact

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References

9. Genigraphics® has been producing 100% PEDANTIC SPACE TUMORS extending to skull base. A case report and review of the literature. Skull Base 2006;16(3):121-125; Discussion 3:09.

Radiographic Findings

Computed Tomography (CT) images of cervical (A, B), axial (C, D), and sagittal (E, F) planes reveal a very diffuse and involved lipomatous mass infiltrating the infratemporal fossa, parapharyngeal space, and neck on the left side. Note the significant displacement, curvatures, and compression of the carotid artery and jugular vein by the mass. The red asterisk (*) marks the lesion in each image.