Introduction

Parapharyngeal space neoplasms are relatively uncommon occurrences comprising less than 1% of all head and neck tumors. The parotid and minor salivary glands are the most common sites of origin (35-50%), but other sites include nerve, vascular, muscle and other connective tissues.1-4 These tumors are benign approximately 80% of the time, the most common being pleomorphic adenoma. The low incidence and wide variety of tumors occurring in the complex parapharyngeal space offer unique challenges for the head and neck surgeon. There is an array of different surgical approaches that can be undertaken in gaining access to the parapharyngeal space, and choosing the right approach is a crucial step in the treatment process. We present a patient with a rare parapharyngeal space lipoma that was successfully resected via a transoral approach.

Case Report

An 81 year old male was referred for an evaluation of an incidental finding of left-sided parapharyngeal space mass. The CT was ordered when the patient’s primary care physician noticed a left sided fullness in the oropharynx with deviation of the uvula. The patient denied symptoms such as shortness of breath, apnea, dysphagia, voice changes or globus sensation. There were no symptoms suggesting nerve involvement such as weakness, facial twitching, ataxia or ophthalmoplegia.

On physical exam, there was a left peritonsillar submucosal fullness, producing deviation of adjacent soft palate, tonsil and uvula due to mass effect. The mass was uniform soft and compressible without fluctuance. There was no pain on palpation or neck movement. The exam was also remarkable for absence of neck lymphadenopathy or any other tumors. CT scan showed an encapsulated, smooth-bordered, homogenous low-density mass in the left parapharyngeal space, and there was no involvement of any vascular or nervous structures. The tumor was 3.0 x 2.5 cm and situated in the parapharyngeal space.

After exposure and inspection of the oral cavity, a transoral pharyngotomy was performed down to the level of the tumor. A combination of sharp and blunt dissection was used to expose and completely free the tumor from surrounding structures before resection. There was no damage to surrounding nervous structures or vasculature and the internal carotid was identified and preserved. After ensuring there was no residual tumor, the pharyngotomy was repaired. The tumor was 24 grams, uniformly soft with smooth edges and confirmed to be a benign lipoma by pathology. The patient was discharged home on the day of surgery with total blood loss less than 5 mL and no complications in follow up.

Discussion

Most parapharyngeal space tumors originate from the salivary glands or from nervous tissue. Of the salivary gland tumors, the pleomorphic adenoma is most common (80-90%) and can be found in the pre-styloid compartment. While most salivary gland tumors are benign (80%), malignant tumors such as ex-pleomorphic adenoma or adenoid cystic carcinoma must be considered.1-4

Fig 1. Transoral resection of parapharyngeal lipoma.

Discussion Continued

Neurogenic tumors are the next most common type of tumors found in the parapharyngeal space (25-30%). They are largely benign and include schwannomas, neurofibromas and paragangliomas. The other remaining types of neoplasms are diverse but are most commonly from surrounding connective tissue. Other lesions such as carotid aneurysms, abscesses and lymphadenopathy should also be considered when evaluating a parapharyngeal mass. Lipomas are benign, commonly encapsulated tumors comprised of adipose tissue. While lipomas are the most common soft-tissue tumor found in the body, they are very rare in the parapharyngeal space with only about 10 cases described in the literature.

Surgical exposure of the parapharyngeal space can be obtained through a transcervical, transmandibular, transparotid, transoral or infratemporal approach.2,4-6 When deciding on a surgical approach, each parapharyngeal tumor must be evaluated for location, size, vascularity and malignant potential. While the transcervical method is most commonly used, combinations of the different procedures can be used when more exposure is required. For instance, larger tumors that extend into the skull base may require a transcervical-transmandibular approach.3,7 Transoral excisions are rarely used because it provides the least amount of exposure and subsequently increased risk of tumor spillage, inability to control bleeding and tumor recurrence.4-5 In cases that do not require extensive access, however, the transoral approach can offer the least amount of trauma, minimal post-op morbidities and immediate return to function.4 In our present case, the decision for a transoral approach was based on CT findings strongly suggesting lipoma and the likelihood of malignancy, abscess, or nerve and vascular involvement.

Each case of parapharyngeal space tumor requires unique consideration, carefully weighing the risks and benefits of each specific case. When faced with significant risk of malignancy, involvement of nerve or vasculature or large tumors, adequate surgical exposure for careful and complete resection is most important. But if the tumor is likely benign and there are no complicating factors, conservative treatment may be more appropriate. Thorough preoperative evaluation is key in choosing the safest and most efficacious treatment option.

Conclusion

Traditionally some surgeons may have considered transoral access to the parapharyngeal cavity as inadequate and dangerous. However with high suspicion of a benign tumor that is uninvolved with critical structures, transoral approach should be one of the primary surgical options. We present a case of parapharyngeal space lipoma where transoral was a safe and suitable option for the resection of tumor.

References