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Case Report

Pleomorphic adenoma in para pharyngeal space: a rare presentation

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ABSTRACT

Parapharyngeal space is one of the potential space for neoplasms and infections and represent less than 1% tumours of all head and neck tumours. Pleomorphic adenoma occurrence in para pharyngeal space is rare presentation. The anatomy of the parapharyngeal space is complex. The complex anatomy and wide variety of pathology make the management of these tumours very challenging.

Keywords: Pleomorphic adenoma, Para pharyngeal tumours, Surgery

INTRODUCTION

Parapharyngeal space lies laterally on either side of pharynx. They are potential spaces filled with fat and areolar tissues containing branches of maxillary nerve and maxillary vessels.[1] Parapharyngeal space (PPS) resembles an inverted triangular pyramid with concave faces. This space is located posterior to infratemporal fossa anteriorly, nasopharynx and the lateral pharyngeal wall medially, vertebral column posteriorly, and mandibular ramus laterally. The base of the pyramid is situated on the skull base and the apex is found where the posterior digastric muscles and the greater cornu of hyoid bone meet. The space is further divided into prestyloid and poststyloid compartments by styloid process and its attached muscles and fascia. Posterior to the styloid musculature lies the carotid artery with jugular vein and sympathetic chain with cranial nerves IX through XII. The main structures contained in anterior compartment include the pterygoid and tensor palatni muscles, fat and deep lobe of the parotid gland.[2]

Parapharyngeal space may become involved by various infectious, inflammations, and neoplasms in head and neck. Both benign and malignant tumors may arise from any structure contained within the PPS where 70–80% appears to be benign and 20–30% appears to be malignant. Most of the tumours arising from the posterior compartment are of neurogenic origin while salivary gland tumours are predisposing the anterior compartment.[2]

The most common tumors arising in the parapharyngeal space are of salivary gland origin, which account for 40–50% of parapharyngeal lesions and are located in the prestyloid parapharyngeal space. These tumors may originate either in deep lobe of parotid gland, in ectopic salivary gland nests, or in minor salivary glands of the lateral pharyngeal wall. The most common prestyloid PPS lesion is "pleomorphic adenoma," which represents 80–90% of salivary neoplasms in the parapharayngeal space.[2]

CASE REPORT

A 28 year old female presented to ENT OPD with complaints of difficulty in swallowing and swelling in right side of neck for 1 year (Figure 1). There was no complaint of difficulty in breathing, fever, no history of soreness of throat. On intraoral examination there was bulging of the right soft palate and right lateral pharyngeal wall crossing the midline and pushing the

uvula to left side along with a smooth overlying mucosa (Figure 2). On digital palpation, swelling is firm, non tender and bimanually palpable.

Figure 1: Swelling on right side of neck.

Figure 2: Intraoral swelling on right side displacing uvula to left side.

Post nasal examination with 0^{o} endoscope shows extention of swelling to nasopharynx and direct laryngoscopy with 90^{o} endoscope revealed the lower limit of swelling in vallecula. There was no significant enlargement of lymph nodes in the neck. Clinical examination did not reveal involvement of any of the cranial nerve.

INVESTIGATIONS

Fine needle aspiration cytology shows benign looking epithelial cells along with fragments of myoepithelial cells with background of chondromyxoid stroma which is suggestive of benign salivary gland neoplasm.

MRI shows large well defined T1 isointense and T2 heterogenous lesions in right parapharyngeal space displacing retromandibular vein and external carotid artery laterally. There is displacement of carotid artery and juglar vein posteriorly (Figure 3). Lesion measures 6.1×4.8×6.1 cm in size. Impression is mass in parapharyngeal space involving deep lobe of parotid suggestive of pleomorphic adenoma.

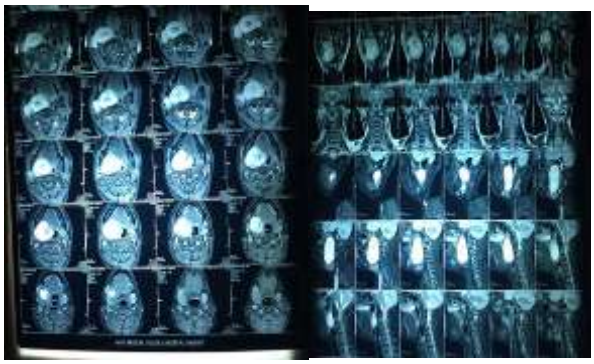

Figure 3: MRI axial and coronal cuts showing parapharyngeal mass displacing internal juglar vein and carotid artery posteriorly.

SURGERY

Transcervical approach is used to gain access to right parapharyngeal space without any mandibular osteotomy. The tumour was completely excised. On gross examination the tumour was 8×7×3.5 cm with whitish lobulated and glistening surface. Histopathological examination shows a neoplasm having admixture of epithelial and stromal components that is of pleomorphic adenoma.

DISCUSSION

Parapharyngeal space masses account for 0.5% of all head and neck tumours. Majority of parapharyngeal space masses is histopathologically benign (76%).[3] Neoplasms of salivary gland origin are located in the prestyloid parapharyngeal space (PPS) and account for 40–50% of parapharyngeal space lesions. Salivary neoplasms may arise from the deep lobe of the parotid gland, ectopic salivary rest or minor salivary glands of the lateral pharyngeal wall.[4]

Minor salivary gland tumours constitute 22% of all the salivary gland tumours and among them only 18% portion of them are histopathologically benign, the rest being malignant. Among the benign salivary gland tumours seen in the PPS the most common prestyloid lesion is pleomorphic adenoma, which represents 80–90% of salivary neoplasms in the parapharyngeal space.[4]

The most common site of pleomorphic adenoma of the minor salivary gland is the palate followed by lip, buccal mucosa, tongue, tonsil, pharynx, floor of mouth, retromolar trigone, and nasal cavity.[5]

There are a few cases reported that have taken the origin from the minor salivary gland tissue of the PPS.[6,7] 18% of the tumours arising in the minor salivary glands are benign and pleomorphic adenoma is the commonest of all.[8] Pleomorphic adenoma may also invade PPS as an extension of the deep lobe of the parotid gland.[9-11] About 10–12% of pleomorphic adenomas of the parotid are thought to arise from the deep lobe of parotid. Parotid tissue can herniate through a weakness in the stylomandibular membrane and lie in the lateral pharyngeal wall. For this reason, tumors deep in the parotid gland can present as parapharyngeal masses. [2]

In diagnostic workup complete blood count done, followed by fine needle aspiration cytology (FNAC), computerized tomography (CT), and magnetic resonance imaging (MRI) studies to determine the extent of disease, local spread, and even the type of tumour. MRI has been shown to be superior to computed tomography in the investigation of parapharyngeal space tumours.[12]

The treatment of these tumours is the most challenging part to the head and neck surgeon because of the difficult location of the tumour with very important structures nearby such as large vessels of the neck, sympathetic chain, lymph nodes, and lower cranial nerves.[9]

The treatment of pleomorphic adenoma is essentially surgical.[13,14] The approach of choice to the parapharyngeal space to allow adequate removal of the tumor should meet two criteria: wide intra-operative visibility for safe radical dissection and minimal functional or cosmetic after-effects.[15] The approach should be individualized based on the size and extent of tumor, and the knowledge, skill and experience of the operative surgeon.[16] These tumours are well encapsulated, resection of tumour with adequate margins of normal tissue is necessary to prevent local recurrence of these tumours. The recuurence rate is higher in parapharyngeal space tumours as wide resection is not possible due to close proximity of vital structures.[17]

CONCLUSIONS

Pleomorphic adenoma arising in parapharyngeal space is of rare occurrence. High index of suspicion and adequate clearance of the tumour with cuff of surrounding normal tissue is the key to successful treatment of such tumours.

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