

PLEOMORPHIC ADENOMA IN PARAPHARYNGEAL SPACE – A CASE REPORT AND REVIEW LITERATURE

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ABSTRACT

INTRODUCTION

Parapharyngeal tumours account for 0.5% of all head and neck masses and vast majority are benign. Pleomorphic adenomas of the parapharyngeal space arise from the deep lobe of parotid gland present in oropharynx.

MATERIAL AND METHOD

A case of benign tumor of Parapharyngeal Space was admitted in the Otorhinolaryngology department of a tertiary care centre. The patient was a 26yr old female presented with chief complaints of difficulty in swallowing and swelling in the oral cavity since 2 months. On examination there was a firm swelling on right submandibular region and upper side of neck and uvula was deviated towards left side. CTscan revealed a heterogenous mass in the parapharyngeal space. Provisional diagnosis of benign salivary gland tumor of the parapharyngeal space was made. Tumour was surgically excised and tissue send for histopathological examination, which confirmed the tumour as Pleomorphic adenoma.

CONCLUSION

Pleomorphic adenoma in parapharyngeal space is of rare occurrence. An adequate clearance of the tumor with a cuff of surrounding dispensable normal tissues is the key to successful treatment of such tumors.

Keywords:

Pleomorphic Adenoma; Parapharyngeal Space;

INTRODUCTION

The parapharyngeal or lateral pharyngeal space is typically described as an inverted pyramid-shaped space located lateral to the pharynx. It extends superiorly till the skull base, including a small portion of the temporal bone and a fascial connection from the medial pterygoid plate to the spine of the sphenoid medially. Inferior limitation of the space is the greater cornu of the hyoid bone at its junction with the posterior belly of the digastric muscle. The superior-medial border is formed by the fascia of the tensor vel palatini, medial pterygoid muscles and the pharyngobasilar fascia. Inferior-medially the space is defined by the superior constrictor muscle. The anterior border is formed by the pterygomandibular raphe. The lateral boundaries are the medial pterygoid muscle, mandible, deep lobe portion of the parotid gland and a small portion of the digastric muscle posteriorly. Posterior limit is the pre-vertebral fascia.

The space is divided into a pre-styloid and post styloid compartment by condensation of fascia – aponeurosis of Zuckerkandl and Testut, extending from the styloid process to the tensor veli-palatini muscle. The pre-styloid compartment contains lymphatic tissue, the Internal Maxillary artery and branches of the mandibular division of the trigeminal nerve. The post styloid compartment contains the Internal Carotid artery, Internal Jugular vein, cranial nerves IX, X, XI, XII, the cervical sympathetic chain, lymph nodes and glomus bodies.[1,2&3].

CASE REPORT

Ultrasonography of the neck reported prominent heterogeneous hypoechoic lesion in right upper neck in submandibular region, posterior to right submandibular gland measuring $\sim 7.6 \times 5.6 \times 5.4$ cm, extending to right lower most cheek region with loss of plane to adjacent right parotid gland, compressing it. No sizeable internal vascularity was noted on Color Doppler. Lesion is seen along right oropharyngeal wall with likely extension to parapharyngeal space. Sub-centimeter Level I / II lymph-nodes were also seen in both sides of neck measuring ~ 7.8 mm in short axis diameter.

CT Face with Neck showed a fairly defined hyperintense soft tissue lesion in the right parapharyngeal space, extending postero-

Based on the clinical, cytological and radiographic investigations the case was diagnosed as a case of Benign salivary gland tumor of the Parapharyngeal space

U.P. State Journal of Otorhinolaryngology & Head and Neck Surgery
Vol.-11, Issue-1, June 2023

Figure- 3: Intraoperative and Gross features of the mass



Figure-4: Intraoperative and Gross features of the mass



Entire Intra and post-op period was uneventful. Patient was discharged after 7 days of hospitalization in good health. She has been on regular follow-up and is asymptomatic with no residual or recurrent disease till date. (Figure 5,6)

Figure-5: Postoperative healthy suture line



Figure 6: Postoperative healthy suture line



Histopathological examination exhibited lobulated arrangement showing three components: Ductal epithelial cells, myo-epithelial cells and chondromyxoid chondroid stroma suggesting PLEOMORPHIC ADENOMA. (Figure 7,8)

Figure 7: Histological features of the pleomorphic adenoma (40 H&E)

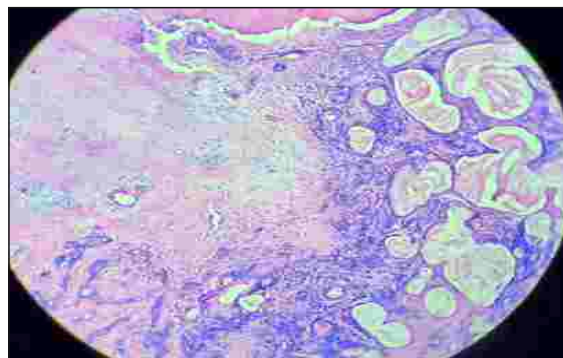
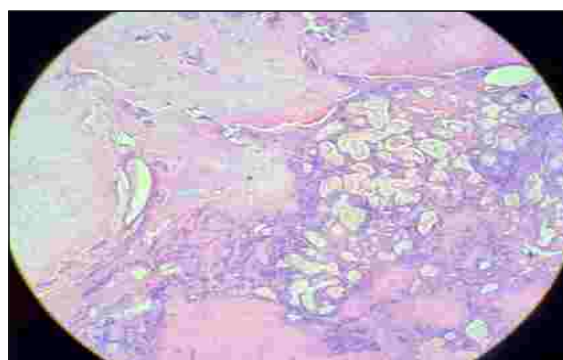


Figure-8: Histological features of the pleomorphic adenoma



DISCUSSION

Parapharyngeal space (PPS) resembles an inverted triangular pyramid with concave faces. This space is located posterior to infra-temporal 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 pre-styloid and post styloid compartments by styloid process and its attached muscles and fascia.[4]

Salivary gland tumours constitute for less than 4 % of all head and neck tumours. They are more common in adults.[6]Pleomorphic adenoma is the commonest benign salivary gland tumor, predominantly affecting the parotid gland in nearly 84 % cases, 8 % in the submandibular and around 4–6 % in the minor salivary glands.[7]

Differential of PPS masses can be pleomorphic adenoma, Warthins tumor, basal cell adenoma, Schwannoma, vagal para-ganglioma.

Pleomorphic adenoma has a high rate of recurrence. Due to paucity of symptoms and the possibility of extension into a hidden site, such as the parapharyngeal space, these tumors can grow for a long time before being diagnosed and the potential risk of malignant transformation increases over the years with an incidence of about 1–7 %.[8]

Pleomorphic adenoma usually presents as a submucosal swelling and other varied symptoms of a parapharyngeal mass lesion like otalgia, neuralgia, cranial nerve deficits or trismus. However, in some cases, patient may present with snoring and obstructive sleep apnea syndrome due to the huge size of the tumor compressing the para-tonsillar and tonsillar areas .[5]In our case, as the symptoms progressed gradually, the patient presented late when the mass size was large enough to be visible in the oral cavity.

Fine-needle aspiration cytology (FNAC) is usually the modality of choice for obtaining sample for

diagnosis. However in PPS tumors nearly 25% of intraoral FNAC may not be diagnostic due to lack of adequate cellular material.

CT scan is an important diagnostic tool in tumours of parapharyngeal space because it helps in determining the extent of disease, local spread and to some extent in determining the type of tumour.[9]

Histopathologically, pleomorphic adenoma is an epithelial tumour of complex morphology, possessing epithelial and myoepithelial elements arranged in a variety of patterns and embedded in a muco-polysaccharide stroma. Formation of the capsule is as a result of fibrosis of surrounding salivary parenchyma, which is compressed by the tumour and is referred to as "false capsule".[9]

The primary treatment modality for pleomorphic adenoma is surgical excision. Various approaches defined are trans-parotid, trans-cervical and trans-mandibular routes.[10]

CONCLUSION

Pleomorphic adenoma in parapharyngeal space is of rare occurrence. An adequate clearance of the tumor with a cuff of surrounding dispensable normal tissues is the key to successful treatment of such tumors.

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How to cite this article

Kumar H. et al; Pleomorphic Adenoma In Parapharyngeal Space - A Case Report And Review Literature; UPJOHNS; June 23; 11(1); page 56-60
DOI: <http://doi.org/10.36611/upjohns/volume11/Issue1/10>
Orcid Id: <https://0000-0001-9316-8678>



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