

## Frequency of Pleomorphic Adenoma in Salivary Glands

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### ABSTRACT

**Objectives:** To examine the frequency of pleomorphic adenoma in salivary gland tumors

**Material and methods:** Fifty patients with salivary gland tumors who underwent surgery from July 2007 to July 2010,

**Place of Study:** GMC Teaching Hospital Sukkur

**Results:** 50 case were diagnosed with salivary gland tumors

**Conclusion:** Pleomorphic adenoma arising de novo in the parapharyngeal space is of rare occurrence. High index of suspicion and an adequate clearance of the tumor with a cuff of surrounding dispensable normal tissues is a key to successful treatment of such tumors.

**Key words:** Pleomorphic adenoma, parapharyngeal space

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### INTRODUCTION

Pleomorphic adenoma is a benign neoplastic tumor of the salivary gland. It is the most common type of salivary gland tumor and the most common tumor of the parotid gland. It derives its name from the architectural pleomorphism (variable appearance) seen by the light microscopy. It is also known as mixed tumor, salivary gland type which describes its pleomorphic appearance as opposed to its dual origin from epithelial and myoepithelial elements.

The tumor is usually solitary and presents as a slow growing, painless, firm single nodular mass isolated nodules are generally outgrowths of the main nodular rather than a multinodular presentation. It is usually mobile unless found in the palate and can cause atrophy of the mandibular ramus, when located in the parotid gland. When found in the parotid tail, it may present as an aversion of the ear lobule. Though it is classified as benign tumor pleomorphic adenomas have the capacity to grow to large proportions and may undergo malignant transformation, to form carcinoma ex-pleomorphic adenoma, a risk that increases with long time. Although it is benign, the tumor is aneuploid, it can recur after resection, it invades normal adjacent tissue and distant metastases have been reported after long (+10years) time intervals.

Though most of the benign tumors of the minor salivary gland in the oral cavity present as a painless sub mucosal swelling<sup>1</sup>, those from the parapharyngeal space may show additional symptoms, like otalgia, neuralgia, palsies, of 9<sup>th</sup>, 10<sup>th</sup> or 11<sup>th</sup> cranial nerves or

trismus classical findings of benign Para pharyngeal swelling are a sub mucosal swelling in the lateral pharyngeal wall with or without extension to retromandibular fossa or the Submandibular trigone and by manual ballot ability<sup>2,3</sup>.

CT scan and MRI are important diagnostic tools in tumors of parapharyngeal space. These help in determining the extent of disease, local spread and also help to sum extent in determining the type of tumor. Contrast enhancement is seen in vascular and neurogenic tumor. Patients of intact fat plan helps in distinguishing benign tumors from malignant ones. Extension of tumor from the deep lobe of parotid gland as distinguishable from tumor arising de novo in Para pharyngeal space by a fine translucent line representing the compressed layer of fibro adipose tissue between the tumor and deep lobe of parotid<sup>4</sup>. MRI has been shown to be superior to computed tomography in the investigation of parapharyngeal space tumors<sup>5,6,7,8</sup>.

### PATIENTS AND METHODS

We include in this study 50 patients who underwent surgery of salivary gland tumors. At the Otorhinolaryngology and surgery departments of the Ghulam Mohammad Mahar Medical College Hospital Sukkur between July 2007 to July 2010. Purpose is to care for poor people. Patients ages ranges from 6 years to 60 years. Patients comprised 30 female and 20 male. Most of the patients were belonging to poor class, and also belongs to rural areas. physical examination and the results of the ultrasonography and FNAC, while the definitive diagnosis was based on the excision biopsy results in each case.

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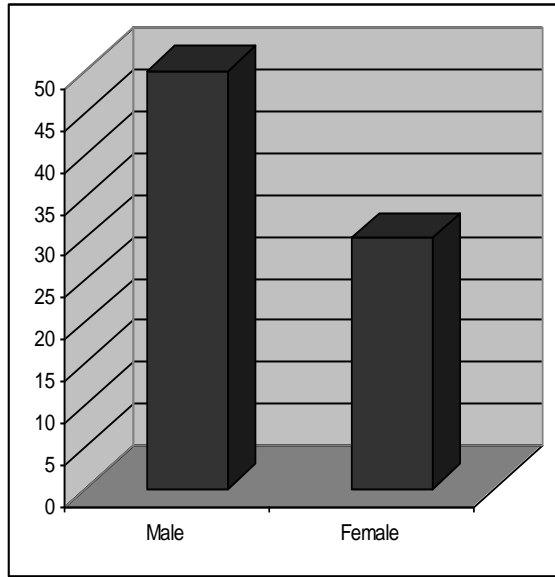
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**RESULTS**

Age distribution (n=50)

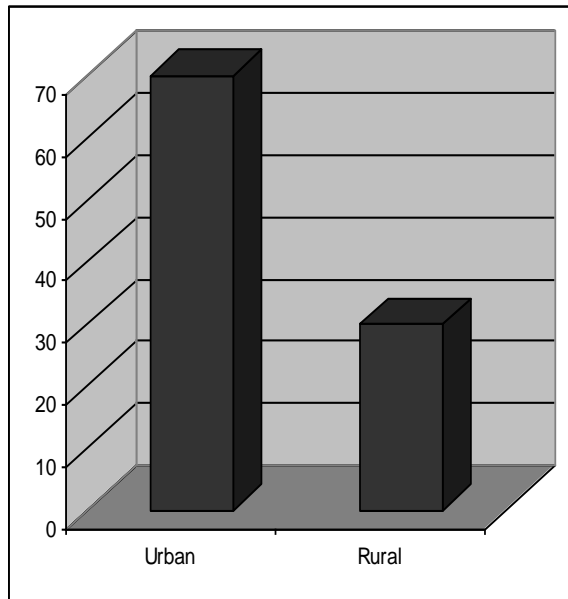
Age in years	n=
05-20	05
21-40	25
41-50	15
>60	05

Sex distribution



Socioeconomic status	n=
High (Rs.10,000/ month/person)	05
Middle (Rs. 3000-10,000/ month/person)	15
Low (Rs.3,000/ month/person)	30

Geographical distribution



Pattern of disease (n=50)

Salivary gland tumours	n=
Parotid gland	30
Submandibular gland	10
Soft palate	07
Parapharyngeal space	03

Pattern of disease (n=50)

Histopathology	n=
Parotid gland pleomorphic adenoma	29
Adenoid cystic carcinoma	02
Submandibular gland pleomorphic adenoma	09
Adenocarcinoma	02
Parapharyngeal space pleomorphic adenoma	01
Mucoepidermoid carcinoma	02

**DISCUSSION**

Tumors arising in the minor salivary glands account for 22% of all salivary gland neoplasms. Majority of them are malignant with only 18% being benign. Of all the benign tumors Pleomorphic adenoma is the commonest. The most common site of pleomorphic adenoma of the minor salivary glands is the palate followed by lip, buccal mucosa, and floor of mouth, tongue, tonsil, pharynx, retro molar area and nasal cavity. Pleomorphic adenoma of the Para pharyngeal space as suggested by Varghese et al. An other source of such tumor is deep lobe of parotid gland, in which case the tumor may present as a dumb bell tumor abutting the stylohyoid ligament. A comprehensive review of literature showed very few case reports of pleomorphic adenoma arising de novo in the Para pharyngeal space

Fine needle aspiration cytology is the modality of choice for obtaining biopsy sample for diagnosis. Incision biopsy is no more advocated for salivary gland tumor due to seeding of tumor and subsequent multi nodular recurrence<sup>9</sup>. Histopathologically pleomorphic adenoma is an epithelial tumor of complex morphology possessing epithelial and my epithelial elements arrange in verity of patterns and embedded in a muco polysaccharide stroma formation of the capsule is a result of fibroses of surrounding salivary parenchyma, which is compress by the tumor and is referred to as falls capsule . The treatment of pleomorphic adenoma is essentially surgical. Though these tumors are apparently well encapsulated, resection of the tumor with in adequate margins of grossly normal sounding tissue is necessary to prevent local recurrence as those tumor are known to have microscope pseudo pod like extension in to the surrounding tissue due to” dehiscence in the falls capsule .The parapharyngeal space is however a complex anatomic region located between the mandibular ramus and lateral pharynx

and extending as inverted pyramid from the skull base superiorly, to hyoid bone inferiorly. Within this potential space are cranial nerves ix, x xi, and xii. The sympathetic chain, carotid artery, the jugular vein and lymph nodes. Due to the Parapharyngeal space tumors, anatomic complexity location and surrounding vital structures, resection of tumor from this space can prove challenging to the head and neck surgeon. The approach of choice to the parapharyngeal space to allow adequate removal of tumor should meet to criteria wide intraoperative visibility for the safe radical dissection and minimal functional and are cosmetic after effects. Traditionally, parapharyngeal space surgery mainly uses the transcervical and parotid approaches. Malone et al. and Hamza et al. describe the tumors using the transcervical approach alone 90-100% Cases. Hughes et al.<sup>10</sup>. Published a series of 172 cases using the transcervical and transposed approaches in 94% using mandibular osteotomy in only 2% of resections the transoral approach described Ehrlich<sup>11</sup> in 1950 is indicated for small non vascular tumors as it offers poor exposition and does not give adequate control in the event hemorrhage. Works published by Mc Elroth et al.<sup>12</sup> in 1963 describe the use of this approach along with literature of external carotid artery to remove Parapharyngeal space tumors in a study on 112 patients. More recently, 1989 Goodwin and Chandler considered this approach to adequate access to the parapharyngeal space, as it gives direct access to the parapharyngeal space. It is very useful combined with other techniques, as it allows the deepest part of the tumors to be exposed, allowing for the removal of larger tumors. The several kinds of mandibular osteotomies have been described in the literature to give excellent exposure. We prefer to use transoral approach in small tumors and a standard transcervical approach for large benign Parapharyngeal Space tumor.

## CONCLUSION

Pleomorphic adenoma arising de novo in the parapharyngeal space is of rare occurrence. High index of suspicion and an adequate clearance of the tumor with a cuff of surrounding dispensable normal tissues is a key to successful treatment of such tumors. Though most of the tumors of the minor

salivary gland in the oral cavity present as a painless submucosal swelling, those from the parapharyngeal space may show additional symptoms, like otalgia, neuralgia, palsies of cranial nerves.

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