INTRODUCTION

Salivary gland tumours present about 3% of all neoplasm and 5%\(^1,2\) of head and neck tumours. Approximately 80% arise in the parotid gland, 10% in the submandibular gland and remaining are distributed in the sublingual and minor salivary glands.\(^3-^5\)

Benign tumours are more common than malignant tumours. In the parotid gland about 80% are benign, whereas in submandibular gland it drops to 60% and in oral cavity malignant salivary tumours outnumber the benign.\(^1,3\) Parotid tumours are more common in female, whereas for salivary tumours at other sites, gender distribution is equal.\(^6\)

Benign salivary tumours are more common in adolescent\(^7\) and rare in children. Average age of presentation is about 45 years.

Most common benign tumour of the parotid gland is pleomorphic adenoma, which makes up about 80% of all the benign tumours. Other benign tumours are monomorphic adenoma, Warthin's tumour, oxyphil adenoma and vascular and lymphatic swellings.\(^8\)

These are slow growing tumours and produce no symptoms except the presence of swelling in the parotid area for years.\(^9\) Sudden increase in size, pain or facial palsy are ominous signs and signify malignancy, tuberculosis or sarcoidosis.\(^10\)

Pleomorphic adenoma is a slow growing tumour with benign clinical course. It is an epithelial tumour of complex morphology, made up of epithelial and myoepithelial elements in a variety of patterns, embedded in mucopolysaccharide stroma. It most commonly occurs in the superficial lobe of the parotid gland.\(^3\)

Common malignant tumours in parotid glands are adenoid cystic carcinoma, Mucoepidermoid tumours and adenocarcinoma.

Fine Needle Aspiration Cytology (FNAC) helps in evaluating the nature of parotid tumours and has sensitivity and specificity of about 95% and 75% respectively.\(^11\)
CT scan is very helpful in delineating the extent of tumour, particularly of deep lobe, its extension in parapharyngeal space and surrounding area and relation of the tumour to the facial nerve. MRI is the investigation of choice for parotid neoplasms. It can be used to delineate tumour site and relationship to vital structures. In particular, it identifies deep lobe involvement, a factor important in planning treatment. Invasion of muscles of mastication appears to be associated with carcinoma.

The purpose of this study was to find out the frequency and morphology of parotid tumours.

**PATIENTS AND METHODS**

This study of parotid tumours was carried out at the ENT Department of Karachi Medical and Dental College and Abbasi Shaheed Hospital, Karachi from 1990 to 2004. During this period, 204 patients with parotid tumours were enrolled. All patients were assessed by history, clinical examination, hematological and biochemical tests, FNAC and ultrasound. CT Scan / MRI was done in cases where suspicion was high for malignancy, involvement of deep lobe or presented with complications. Inclusion criteria were all patients presenting with parotid tumours regardless of age and gender. Exclusion criteria were inflammatory parotid swellings, parotid abscess, posttraumatic parotid swelling or history of tuberculosis.

**RESULTS**

All the patients were presented with swelling in the parotid area for years except 35 patients, in whom the duration of swelling was 3-6 months. Of these, 117 (57.35%) were female patients and 87 (42.64%) were male with 1.4:1 female: male ratio. Benign tumours were 152 (74.5%) and malignant 52 (25.5%). Benign tumours were more common in females 101 cases (66.44%) out of 152 cases, whereas malignant tumours were more common in males, 36 cases (69.23%) compared to females (30.76%).

Mean age for benign tumour was 34 years, with patients’ age ranging between 18-70 years. Mean age of presentation for malignant tumour was 08 years higher i.e. 42 years, with patients ranging between11-75 years.

Age incidence of benign and malignant tumours is shown in Table I.

Benign tumours were more common in 31-50 years age group (87 cases) and malignant tumours were more common in 51-70 years age group (33 cases).

In this series of 204 parotid tumours, most common benign tumour was pleomorphic adenoma 127 cases, comprising about 62.25% of all and 83.5% of benign tumours. Of those, 70% (89) cases were found in females and 30% (38) cases in males. In females the incidence of pleomorphic adenoma was 88% (89/101), whereas in males it was slightly lower 74% (38/51).

Other benign tumours found in this series were Warthin’s tumour, (n=12, 5.88%), lipoma and schwannoma 04 cases (2%) each, neurofibroma 03 and lymphoepithelial cyst 02 cases. All benign parotid tumours presented with swelling in the parotid area for years. Distribution of benign and malignant tumour is shown in Table II.

Most common malignant tumour in this series was mucoepidermoid carcinoma, 31 cases, comprising about 60% of malignant parotid tumours and 15% of all parotid tumours. Other malignant tumours were adenoid cystic carcinoma, (n=08, 15.4%), acinic cell carcinoma (n=05, 9.6%), carcinoma-ex-pleomorphic adenoma 03 cases, undifferentiated carcinoma 03 cases and lymphoma 02 cases.

Besides swelling in parotid area in all malignant tumours, pain was the main symptom in 20 (38.4%) cases, whereas 16 (31%) presented with fixation to skin or underlying structures, 09 (17.3%) cases with clinical lymphadenopathy and only 07 (14%) cases with facial palsy.

Superficial lobe of parotid gland was the favourite site for both benign and malignant tumours. One hundred twenty benign tumours originated from the superficial lobe and 32 from the deep lobe; whereas all malignant tumours originated from the superficial lobe.

Among these 204 parotid tumours, 184 cases were diagnosed for the first time. The remaining 20 tumours...
were recurrent, of which 17 were benign and 03 malignant.

**DISCUSSION**

This study revealed basically the distribution of various types of parotid tumours according to the gender and age.

In this series of parotid tumours, benign tumours were more common (74.5%), compared to malignant tumours (25.5%). This is identical to all published studies where benign tumours predominate the malignant tumours, incidence ranging between 67-88%. Females were more affected by these tumours, 57.35% and male 42.65%, with female to male ratio of 1:4.1. This is similar to other reported studies, but in contrast to some studies, which describe high male to female ratio. In a study carried out by Lima et al. in 2005, of 245 salivary tumours, female to male ratio was 1.6:1.

Benign tumours were more common in females 66.44%, whereas, malignant tumours were more common in males 69.23%. Such high incidence of benign disease in female was also observed in other studies. This is an unexplained finding.

Mean age for benign tumours was about 34 years and for malignant tumours 42 years. This is same in other studies, in which mean age for benign tumours was about 33.5 years and 42 years for malignant tumours. Mean age of presentation was found little higher, about 40 years for benign and 54.8 years for malignant tumours in Lima et al. series and other studies.

Ninety two percent tumours of their series were epithelial in origin, similar to observations reported in other published series. Among the benign tumours, pleomorphic adenoma was most common, about 83.5% of benign tumours and 62.25% of all parotid tumours. Warthin’s tumour was another common benign tumour, about 8% of all benign tumours. Similar high incidence of pleomorphic adenoma, 83.9%, was observed by Masanja in a series of 205 salivary tumours and other series. Warthin’s tumour was also found second commonest benign tumour in other series.

Lipoma, schwannoma, lymphoepithelial cyst and neurofibroma were infrequent in this series and it correlates well with other studies. No Warthin’s tumour was found in a series of 268 salivary tumours in Uganda.

Mucoepidermoid carcinoma was most common malignant tumour, about 60% of malignant tumour and 15% of all parotid tumours. Mucoepidermoid carcinoma was found about 14% of parotid tumours by Hill, about 35% of malignant tumours by Speight and common malignant tumour in other studies. But in other studies, adenoid cystic carcinoma was more common in parotid tumours. Obaid and Yousuf also reported predominance of adenoid cystic carcinoma in their study of 52 parotid tumours. Adenoid cystic carcinoma was another frequently found malignant tumour in this study. Incidence of acinic cell carcinoma, carcinoma-ex-pleomorphic adenoma, undifferentiated carcinoma and lymphoma was identical to other published series.

Pain in 35% and fixation to skin or underlying structure in 31% was the presenting symptom of malignant parotid tumours in this series, whereas fixation in 37% and clinical lymphadenopathy in 28% were presenting symptoms of malignant parotid tumours in C.M. Malata series.

**CONCLUSION**

Parotid tumours are a group of diverse morphological pattern. More than 90% are of epithelial origin and benign tumours comprise more than 80%. Pleomorphic adenoma is the most common benign tumour, present with painless swelling for long time. Pain, fixation to skin or underlying structures, neck nodes and facial palsy are ominous signs and should alarm the suspicion of malignancy in parotid swelling.

**REFERENCES**


