



SPECTRUM OF SALIVARY GLAND LESIONS IN TERTIARY CARE HOSPITAL

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ABSTRACT

INTRODUCTION: The major salivary glands are parotid, submandibular and sublingual while minor salivary glands are located throughout submucosa of upper aero-digestive tract with maximum amount on the palate. Both benign and malignant tumours may develop in salivary glands. The commonest benign and malignant tumours of salivary gland are pleomorphic adenoma with 80% incidence. The incidence of tumours is that about 80% of parotid gland, while 10% to 20% in submandibular and sublingual glands.

MATERIALS AND METHODS: A 5 year retrospective study was carried out in the Department of pathology, Saveetha medical college after obtaining approval from Institutions Ethics Committee. Sample size included all the salivary gland specimens received during the period of study. The parameters analysed in the study were age, gender, site and histopathological diagnosis of the lesions. H & E slides were re-stained and reviewed independently by two pathologists.

RESULTS: Total 34 cases of salivary gland lesion retrieved and evaluated. Out of them 21 cases were male and 13 were female. Mean age of the cases was 41.3 years. Among the salivary gland lesions, non neoplastic lesions 46.8% and neoplastic lesions are 52.8%. Among the neoplastic lesions benign tumours comprises 44.11% and malignant tumour comprises of 8.82%.

CONCLUSION: The Parotid gland is the commonest site for occurrence of salivary gland tumours. Pleomorphic adenoma is the most frequent benign tumour whereas squamous cell carcinoma is the most commonest malignant tumour of salivary glands.

KEYWORDS :

INTRODUCTION:

The major salivary glands are parotid, submandibular and sublingual while minor salivary glands are located throughout submucosa of upper aero-digestive tract with maximum amount on the palate. Both benign and malignant tumours may develop in salivary glands. Although tumours of salivary gland are less than 1% of the all tumours, however prevalence of these tumours reported in the literature differs. It constitutes 2% to 4% of all the head and neck tumours. The annual prevalence of salivary gland tumours across the globe is reported from 0.4 to 14 cases per 100,000 populations. The annual prevalence of malignant tumours of salivary gland ranges from 0.4 to 2.6 per 100,000 population.

The commonest benign and malignant tumours of salivary gland are pleomorphic adenoma and mucoepidermoid carcinoma, respectively. The incidence of tumours is that about 80% involves parotid gland, while 10% to 20% occurs in submandibular and sublingual glands. Approximately 80% of benign tumour of parotid gland is pleomorphic adenoma. The exact cause for these tumours is still unknown; probably tobacco, vitamin A deficiency, Ionising radiation, chemotherapy and prolonged exposure to sunlight may contribute in their development. The presenting feature of benign salivary gland is a long standing lump, while malignant counterpart can present with rapid growth in lump, pain, nerve paralysis, skin involvement, trismus, fistula formation, weight loss and cervical lymphadenopathy. About one third of malignant parotid tumours involve facial nerve, whereas malignant tumours of submandibular gland may invade hypoglossal nerve followed by trigeminal and facial nerves. Regarding embryological development of salivary gland it is assumed that these glands develop as result of initial thickening of the epithelium of the stomodeum, whereas parotid gland develops from oral ectoderm while submandibular and sublingual glands develop from endodermal germ layers. As due to complexity of salivary gland structures and rarity of occurrence of tumours, it is a diagnostic dilemma for histopathologist on one hand and a challenge for its classification on the other hand. World Health Organisation (WHO) established first classification of salivary gland tumours in 1972, which has been amended so many times in last 4 decades. The diagnosis of salivary gland tumours can be achieved with clinical features complemented with ultrasonography, sialography, computed tomography, magnetic resonance imaging, fine needle aspiration cytology; confirmed by histopathological study of the specimen. However it is difficult to distinguish between benign and malignant salivary gland tumours on basis of fine needle aspiration cytology. In case of benign salivary gland tumours total excision of the tumour is treatment of choice followed by observation for any recurrence, while in case of malignant tumours treatment option is; total excision of primary tumours along with removal of the surrounding involved tissues, as well as neck dissection, followed by chemo-radiotherapy. The incidence of complications especially damage to nerve is common in malignant

tumours due to close relationship of nerve with gland. As salivary gland tumours are common in our society and sizeable cases are frequently presenting to our unit, which are managed properly. So this study was aimed to look into demographic, clinical and histopathological features of salivary gland.

METHODS AND MATERIALS :

A 5 year retrospective study was carried out in the Department of pathology, Saveetha medical college after obtaining approval from Institutions Ethics Committee. Sample size included all the salivary gland specimens received during the period of study. The parameters analysed in the study were age, gender, site and histopathological diagnosis of the lesions. H&E slides were re-stained and reviewed independently by two pathologists.

OBSERVATION AND RESULTS :

AGE DISTRIBUTION:

AGE IN YEARS	NON-NEOPLASTIC	BENIGN	MALIGNANT
<20	3(8.8%)	1(2.9%)	1(2.9%)
20-40	4(11.7%)	6(17.6%)	1(2.9%)
40-60	6(17.6%)	7(20.5%)	1(2.9%)
60-80	3(8.8%)	1(2.9%)	0
>80	0	0	0

DISTRIBUTION OF NON-NEOPLASTIC, BENIGN AND MALIGNANT NEOPLASM:

SITE	NON-NEOPLASTIC	BENIGN	MALIGNANT
Submandibular	9(26.4%)	4(11.7%)	1(2.9%)
Parotid	7(20.5%)	11(32.3%)	2(5.8%)

SPECTRUM OF HISTOPATHOLOGICAL DIAGNOSIS:

TYPE OF LESION	NUMBER	PERCENTAGE
NON-NEOPLASTIC		
Chronic sialadenitis	6	17.6%
Lymphadenitis	2	5.8%
Granulomatous Inflammation	6	17.6%
Mucus retention cyst	1	2.9%
Kimuras diseases	1	2.9%
BENIGN		
Warthin tumour	2	5.8%
Pleomorphic adenoma	10	29.4%
Basal cell adenoma	3	8.8%
MALIGNANT		
Mucoepidermoid carcinoma	3	8.8%

DISCUSSION:

Salivary gland tumours are relatively uncommon lesions [8]. In the present study during 5 year duration, out of 5515 tumours involving

various organs, 34 were salivary gland tumours accounting for 0.84% of all neoplasms. These cases were evaluated and compared with similar studies in literature. The peak incidence of benign tumours is seen in 3th decade which is similar to the other studies in the Asian subcontinent [12,15]. The peak incidence of malignant tumours is seen in the 2th decade which is similar to the other studies in the literature [13,16]. The sex ratio of the benign tumours M:F was 5:6 whereas that of the malignant tumours was 1:1. From the various studies done on salivary gland tumours worldwide it seems that benign tumours occur more commonly in females, but malignant entities have a propensity to involve male patients [11]. This findings is not consistent in the present study because of the lesser sample size when compared to other studies.

According to our study, the most common salivary gland involved is the parotid gland. The predominance of parotid gland tumours relative to other salivary gland tumours is similar to the various other studies in literature [9-11].

Most of the tumours of major salivary gland are benign and the tumours of minor salivary glands are malignant. There was an inverse relation between the size of salivary glands and the rate of malignancy expect for carcinoma ex pleomorphic adenoma where the tumour size and duration was more and the malignancy occurred in major salivary glands [11].

In our study, the most common malignant tumour was Mucoepidermoid carcinoma followed by carcinoma ex pleomorphic adenoma. Adenoid cystic carcinoma being the most common malignant salivary gland tumour is consistent with other studies in the world [12-14].

CONCLUSION:

This study observed that parotid is the most common site for salivary gland tumours. And pleomorphic adenoma and the Warthin tumours are the common benign tumours involve parotid gland the most. Among malignant tumours squamous cell carcinoma are the commonest with female preponderance. While other carcinoma like mucoepidermoid carcinoma and adenoid cystic carcinoma are also common.

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