

Incidence & Pattern of Salivary Gland Tumors – A Clinicopathological Study

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Abstract

Background: The salivary glands are one of the few tissues in the body that are subjected to diverse and heterogeneous range of tumors and tumor like conditions. The relative infrequency of these tumors makes their diagnosis and management quite complicated. Fine needle aspiration cytology (FNAC) is a useful diagnostic procedure which has a recognized role in the evaluation of salivary gland lesions. A pre-operative diagnosis about nature of lesion, whether benign or malignant, will help in making decision about proper management of patient.

Objective: Aim of this study was to know the incidence of various salivary gland tumors in our region using fine needle aspiration cytology and taking histopathology as the gold standard.

Method: It was prospective observational study conducted in department of oral and maxillofacial surgery in our institute. Total 80 cases were studied with particular reference to age, sex, site, cytologic details & histological types as per WHO classification. FNAC & histopathological examination was done in all cases from the department of Pathology Govt. Medical College Srinagar. Diagnostic accuracy of FNAC was evaluated by comparing cytological & histopathological diagnoses.

Results: Maximum number of patients was in age range of 41-50 years & male to female ratio was 2:3. Most common benign & malignant tumors were pleomorphic adenoma (69.89% cases) & mucoepidermoid carcinoma (8.60% cases) respectively. On cytology, 73 cases while on histopathology 76 cases were diagnosed as neoplastic.

Conclusion: parotid gland was the most commonly affected site followed by submandibular gland and minor salivary glands. FNAC in salivary gland masses is fairly reliable for correct preoperative diagnosis.

Keywords: Salivary gland tumors, FNAC,

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I. Introduction

The salivary gland tumors constitute less than three percent of all head and neck tumors (Ahmed et al.)¹ and this relative infrequency makes their diagnosis and management quite complicated. Identifying malignancy pre-operatively is crucial as it can have significant impact on management. Fine needle aspiration cytology is a useful diagnostic procedure which has recognized role in the evaluation of these lesions. Histopathology is the gold standard as it avoids diagnostic pitfalls of FNAC. Aim of study was to know the epidemiology of salivary gland tumors presenting to our department.

II. Methods

This prospective study was done from July 2015 to november 2017. Prior written consent was taken from all patients and permission from ethical committee was taken. All patients with salivary gland pathologies presenting to our institute were included in the study. Total 80 cases were studied. All included patients underwent histopathological examination of the specimen. Grossly, size, surface, encapsulation, cut surface-color, consistency, contents of cystic spaces, hemorrhagic and necrotic areas were examined. Microscopic examination was done with H&E staining. Salivary gland tumors were classified as per WHO classification.

III. Results

Most common presenting complaint was painless swelling. Age range of patients presenting with salivary gland masses was from 10 years to 70 years. Maximum number of patients (32% cases) was seen in the age range of 31-50 years. Mean age for benign tumors was 43 years while mean age for malignant tumors was

46.75 years. 32 were male patients and 48 were female patients. Parotid gland was the most common site of involvement in 67% cases followed by submandibular gland in 21% cases out of 80 salivary gland masses. On cytology, five cases were non-neoplastic and 75 cases were neoplastic. Among 75 neoplastic masses, 64 cases were benign and 11 cases were malignant on cytology. Pleomorphic adenoma was most common benign tumor and mucoepidermoid carcinoma was most common malignant tumor followed by adenoid cystic carcinoma, as shown in Table 1.

IV. Discussion

The present study involves all cases of salivary gland tumors which presented to our institute from July 2015 to November 2017. Salivary gland tumors were observed in all ages ranged from 10 to 70 years but the highest incidence was in fifth decade. Similar wide age range has been observed by other authors. Frable and Frable (1991)² reported age range of two to 93 years. Cristallini et al. (1997)³ reported age range of 11-85 years. Stewart et al. (2000)⁴ and Rajwanshi et al. (2006)⁵ reported age range of 20-92 years and nine to 75 years respectively. In the present study the maximum patients (24%) were in the age range of 31-50 years. In the present study mean age for benign tumors was 43 years and mean age for malignant tumors was 46.75 years. This finding was in accordance with those published in studies of Ahmed et al.,¹ Agarwal et al. The male to female ratio of present study was found to be 2:3. Thus the slight female predominance in the present study was in accordance with the study of Frable and Frable (1991),² Stewart et al (2000)⁴ and Rajwanshi et al. (2006).⁵ Cajulis et al. (1997)⁹ and Cristallini et al. (1997)³ observed male preponderance in their study. In the present study parotid gland was the most commonly affected site followed by submandibular gland and minor salivary glands (5%) figure 1. These findings were in accordance with the studies of Frable and Frable (1991),² Cristallini et al. (1997)³ and Bocatto et al. (1998). In the present study 85.33% masses were diagnosed as benign tumors and 14.67% masses were diagnosed as malignant tumors on cytology. This finding was in accordance with studies of Frable and Frable,

Classification of salivary gland lesions as per WHO classification

The salivary gland lesions were studied as per the classification given in second edition of the World Health Organization's Histological Classification of Salivary Gland Tumors. This Classification is more extensive and detailed than the previous edition published 20 years ago. The new edition is based on data regarding newly described tumor entities and the behavior and prognosis of the previously classified tumors. Among the carcinomas, various types were distinguished for purposes of recognition, prognosis, and treatment. The term tumor was replaced by carcinoma in the following two entities: acinic cell carcinoma and mucoepidermoid carcinoma. The tumor-like lesions were described in more detail (Gerhard S, Leslie HS 1992).¹²

V. Conclusion

parotid gland was the most commonly affected site followed by submandibular gland and minor salivary glands. FNAC in salivary gland masses is fairly reliable for correct preoperative diagnosis. It is safe, minimally invasive, inexpensive and office procedure and provides diagnosis within hours.

References

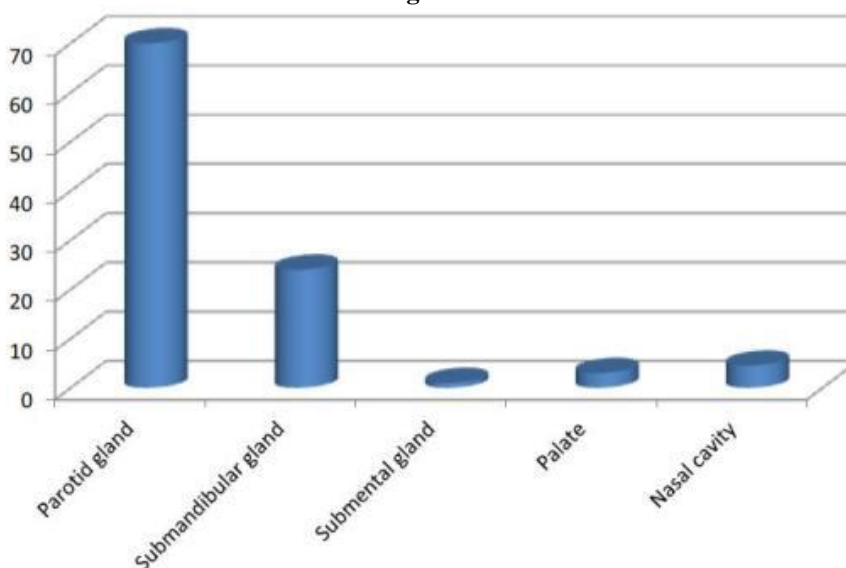
- [1]. Ahmed S, Lateef M, Ahmed R. Clinicopathological study of primary salivary gland tumors in Kashmir. J-K practitioner. 2002;9:231-3.
- [2]. Frable MA, Frable WJ. Fine needle aspiration biopsy of salivary glands. Laryngoscope. 1991;101: 245-9.
- [3]. Cristallini EG, Ascani S, Farabi R, Liberati F, Maccio T, Peciarolo A. Fine needle aspiration biopsy of salivary gland 1985-1995. Acta Cytol. 1997;41:1421-25.
- [4]. Stewart CJR, Mackenzie K, McGarry GW, Mowat A. Fine needle aspiration cytology of salivary glands: A review of 341 cases. Diagn Cytopathol. 2000; 22:139-46.
- [5]. Rajwanshi A, Gupta K, Gupta N, Shukla R, Shrinivasan R, Nijhawan R. Fine needle aspiration cytology of salivary glands: Diagnostic pitfalls- Revisited. Diagn Cytopathol. 2006;34:580-84.
- [6]. Agarwal RV, Solanki BR, Junnarkar RV. Salivary gland tumors. Ind J Cancer. 1967;4(2):209-13.
- [7]. Potdar GG, Dabhoiwala NF, Golwala RM. Parotid tumors. Indian J Surgery. 1969;31:341-9
- [8]. Thomas KM, Hutt MSR, Borgstein J. Salivary gland tumors in Malawi. Cancer. 1980;46:2328- 34.
- [9]. Cajulis RS, Gokaslan ST, Yu GH, Frias-Hidvegi D. Fine needle aspiration biopsy of salivary glands A five-year experience with emphasis on diagnostic pitfalls. Acta Cytol. 1997;41:1412-20.
- [10]. Bocatto P, Altavilla G, Bladamura S. Fine needle aspiration biopsy of salivary gland lesions- a reappraisal of pitfalls and problems. Acta Cytol. 1998;42:888-98.
- [11]. Elagoz S, Gulluoglu M, Yilmazbayhan D, Ozer H, Arslan I. The value of FNAC in salivary gland lesions. J Otorhinolaryngol. 2007;69(1):51-6.
- [12]. Gerhard S, Leslie HS. The World Health Organization's histological classification of salivary gland tumours: a commentary on the second edition. Cancer. 1992;70:379-85.
- [13]. Azzopardi J, Evans D. Malignant lymphoma of parotid associated with Mikulicz disease (benign lymphoepithelial lesion). J Clin Pathol. 1971;24:744-52.

- [14]. Hyman GA, Wolff M. Malignant lymphomas of the salivary glands. Review of the literature and report of 33 new cases, including four cases associated with the lymphoepithelial lesion. *Am J Clin Pathol.* 1976;65(4):421-38.
- [15]. Kljanienko J, Vielh P. Fine needle sampling of salivary gland lesions. Cytology and histology co-relation of 71 cases of Warthin’s tumor. *Diagn Cytopathol.* 1997;16:221-5.
- [16]. Akhter J, Lakhay M, Hirachand S. Role of FNAC in the diagnosis of salivary gland swellings. *Kathmandu Univ Med J.* 2008;6(2):204-8.
- [17]. Das DK, Petkar MA, Al-Mane NM, Mallik MK, Anim JT. Role of fine needle aspiration cytology in the diagnosis of swellings in the salivary gland regions: A study of 712 cases. *Med Princ Pract.* 2004;3:95-106.
- [18]. Stow N. Fine needle aspiration cytology in the management of salivary gland tumors: an Australian experience. *Ear, Nose and Throat Journal.* 2004; 83(2):128-31.

Table 1.

S no	Salivary gland pathology	%age
1	Pleomorphic adenoma	60
2	Mucoepidermoid carcinoma	13
3	Adenoid cystic carcinoma	5

Figure 1.



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