



Cytological Study of Salivary Gland Lesions in a Rural Health Care Hospital

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Abstract

Background: Salivary gland fine-needle aspiration (FNA) represents one of the most challenging area in cytopathology. Salivary gland FNA is easily performed, minimally invasive, safe, cost effective and accurate, provides a rapid diagnostic interpretation (usually within 15–30 minutes), and can easily be used to obtain material for special ancillary studies. The prevalence of salivary gland lesions has been studied in a rural health care hospital.

Aims and Objectives: The aim of this study was to find out the various salivary gland lesions in a rural health care hospital.

Materials and Methods: A total of 63 FNACs were done on salivary gland lesions in the Department of Pathology, R.M.M.C&H, Chidambaram, Tamil Nadu. FNAC was done using 22 gauge needle and 5ml syringe and smears were stained with Giemsa stain.

Result: Slides were studied and analysed by two pathologists. Among the lesions observed 31 were non-neoplastic and 32 were neoplastic. Of the non-neoplastic lesions-Sialadenitis (17) was predominant.

Conclusion: FNAC of salivary gland lesions is safe, simple, rapid, inexpensive, convenient, well tolerated, harmless procedure for the patients and it is an accurate method of diagnosis. So it should be considered as one of the first line of investigation in the evaluation of salivary gland lesions. Reporting of salivary gland lesions needs a competent pathologist considering all the possible pitfalls in mind.

Keywords: Salivary gland lesions, FNAC.

Introduction

Salivary gland lesions form about 2-6.5% of all head and neck neoplasms in adults.³ Worldwide, salivary gland lesions have an annual incidence of

0.4-6.5% cases per 1,00,000 people. Benign accounts for 63%-78% of tumours. Between 64%-80% of salivary glands tumours arise in parotid glands, 7%-11% in the submandibular glands, less

than 1% in the sublingual glands and 9-23% in the minor glands. About 1/3rd of major gland tumours and 50% of minor gland tumours are malignant.¹ Fine-needle aspiration (FNA) has become widely accepted as an efficient first line diagnostic test in salivary gland lesions. FNA can differentiate neoplastic and non-neoplastic salivary gland lesions, and more over can diagnose many common benign tumours².

Aims & Objectives

1. To study the incidence of various types of salivary gland lesions among the patients from a highly rural area of Chidambaram visiting our Hospital. (R.M.M.C&H).
2. To establish the statistical link between the collected data like age and lesion, sex and lesion etc.
3. To assess the utility and limitations of FNAC in the diagnosis of salivary gland lesions.

Materials & Methods

Study Setting: The present study was carried out in the Department Of Pathology, R.M.M.C&H, Annamalainagar, Chidambaram.

Study Participants: All patients who came to our OPD with salivary gland lesions.

Sample Size: 63 cases

Duration: 2 years from June 2017 to May 2019.

Method

Fine needle aspiration in the salivary gland. FNAC was done using 22 gauge needle and 5ml syringe and smears were stained with Giemsa stain.

Results

The present study is a prospective study done for a period of 2 years duration (June 2017-May 2019). A total number of 63 cases were studied at Department of Pathology, Rajah Muthiah Medical College & Hospital. In the present series, the youngest patient was 6 year old and the oldest was 76 years. The maximum incidence was seen in 4th

decade. Parotid was most commonly involved (76%) gland followed by submandibular gland (19%). Most of the salivary gland lesions showed female predominance. The most common complaint was swelling (68%) followed by pain (32%).

Discussion

Table 1: Age Distribution

AGE	NUMBER	PERCENTAGE (%)
0-10	1	1.5
11-20	5	8
21-30	8	13
31-40	16	25
41-50	11	17
51-60	13	21
61-70	8	13
71-80	1	1.5
Total	63	100

The lesions of salivary glands can occur at any age depending upon the type and etiology of the lesion. In the present series, the youngest patient was 6 year old and the oldest was 76 years. (Table 1). The maximum incidence was seen in 4th decade, which is similar to Kakoty et al (2017)⁴ and Omhare et al (2014)⁵.

Sex Incidence

Table 2: Gender Wise Distribution of Salivary gland Lesions

Sex	Number	Percentage (%)
Male	25	40
Female	38	60
Total	63	100

In the present series, the Male: Female ratio is 1:1.5. In the present study there was a female preponderance. Among the 63 patients in the present series, 25 patients were male, 38 patients were female (Table 2 & Figure 1). In the study of Dutta et al the Male: Female ratio was 1:3⁶. Salivary gland lesions were more common in females⁷.

Figure 1: Gender wise distribution of salivary gland lesions

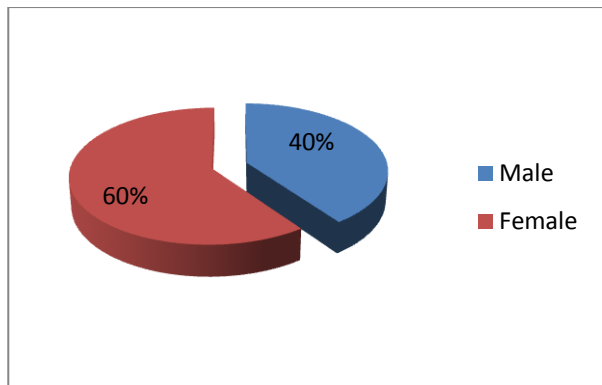


Table 3: Distribution of gland Involvement

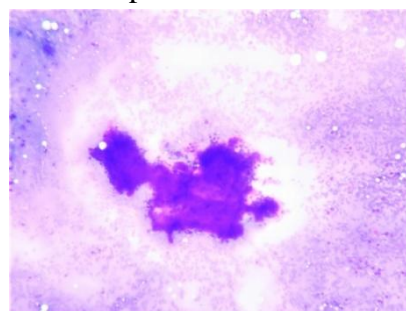
Type of Salivary gland involved	Number of cases	Percentage of cases(%)
Parotid	48	76
Submandibular	12	19
Minor	3	5
Total	63	100

Among the salivary glands, Parotid was commonly involved followed by Submandibular gland. In the present study, Parotid gland was involved in 48 cases (76%) and Submandibular gland in 12 cases (19%) (Table 3). This finding is similar to Todase V et al⁸, Kakoty et al⁴ as well as by other authors.

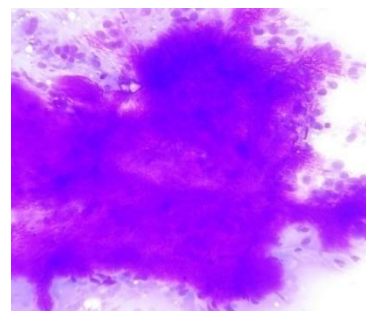
Table 4: Cytological diagnosis of salivary gland lesions

I	Non-Neoplastic	
	Chronic non-specific Sialadenitis	17
	Granulomatous Inflammation	1
	Benign cystic lesion	13
	Total	31
II	Neoplastic	
i	Benign:	
	Pleomorphic adenoma	28
	Basal cell adenoma	1
	Total	29
ii	Malignant	
	Adenoid cystic carcinoma	1
	Acinic cell carcinoma	1
	Pleomorphic adenoma with atypia	1
	Total	3

Figure 2: Pleomorphic adenoma

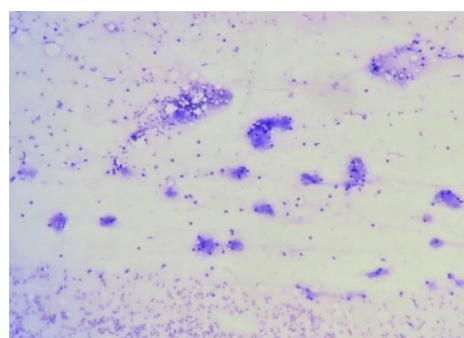


10X showing cohesive clusters of salivary epithelial cells with fibromyxoid stroma

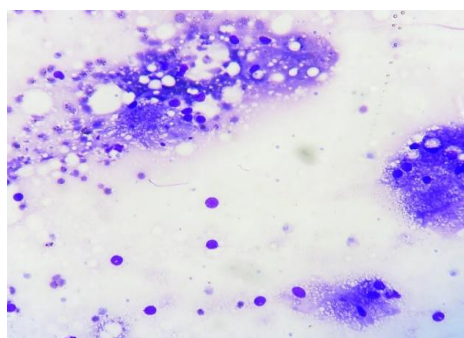


40X showing fibro/chondromyxoid stroma with benign cells

Figure 3: Chronic sialadenitis

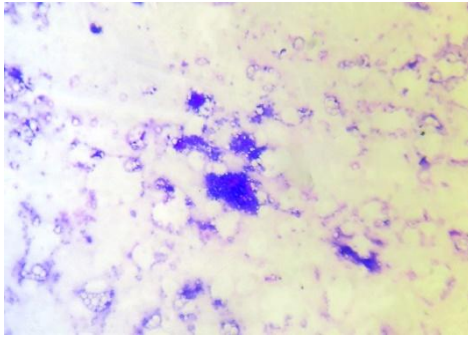


10X:

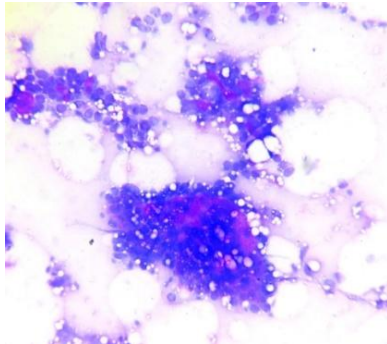


40X:

Groups of acinar cells in inflammatory background.

Figure 4: Acinic cell carcinoma

10X shows clusters of cells, with a clean background



40X showing cells with vacuolated cytoplasm

Pleomorphic adenoma (figure 2), Chronic Sialadenitis (figure 3) and Benign cystic lesion are most commonly seen in Parotid, followed by submandibular and minor salivary gland (Table 4). Most common lesions were seen in the age group of 31-40 years. The least lesions were seen in the age group of 0-10 and 71-80 years. In most cases, FNA can also differentiate between low- and high-grade carcinomas. Neoplastic salivary gland lesions are usually managed surgically, while non-neoplastic ones are managed conservatively, usually without surgical intervention. Knowing whether a carcinoma is low- or high-grade can determine the extent of surgery, including decisions on preservation of the facial nerve in the case of parotid tumours, and indications for neck dissection².

Conclusion

In the present study, it is found out, that there was peak incidence in the 4th decade. Lesions showed female preponderance. The most common gland involved was Parotid. Among the inflammatory lesions Sialadenitis and Granulomatous

Inflammation were seen. Among Benign lesions Pleomorphic adenoma was most commonly seen, followed by Benign cystic lesions and Benign neoplasm. Malignant lesions were Adenoid Cystic Carcinoma, Acinic cell carcinoma and Pleomorphic adenoma with atypia. FNAC is a useful tool in preoperative diagnosis of salivary gland lesions and be crucial for management of the patient.

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Conflict of Interest: The authors declare no conflict of Interest.

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