

## **An Assortment of Salivary Gland Lesions in a Tertiary Care Center, Mulugu Mandal, Siddipet**

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### **Abstract**

**Background:** Salivary glands have been the source of a wide variety of lesions, however uncommon their occurrence may be. Off late, there has been a rise in the inflow of cases pertaining to salivary gland lesions. These lesions have shown a huge diversity in their morphologies. Histopathological examination has been instrumental in diagnosing these lesions as well as differentiating between the benign and malignant ones. The aim of the study is to analyze the occurrence of the salivary gland lesions, highlighting their age, sex and site distribution and delving into the morphological patterns of these lesions.

**Materials and Methods:** Cases recorded over a period of 32 months from January 2020 - August 2022. The surgically resected specimens received at the tertiary care hospital, were subjected to standard processing and histopathological examination was done.

**Results:** Of the 42 specimens received, the lesions showed female predominance, showing peaks at 4<sup>th</sup> decade for benign and 4<sup>th</sup> and 6<sup>th</sup> decade for malignant lesions. Most common site was parotid; most common lesion was pleomorphic adenoma and most common malignant lesion was mucoepidermoid carcinoma.

**Conclusion:** The results of the study coincided with most of the studies done in other regions, hence histopathological examination holds a pertinent role in the diagnosis.

**Keywords:** Salivary glands, morphological patterns, histopathology, pleomorphic adenoma, mucoepidermoid carcinoma.

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## Introduction

Salivary gland lesions are known for their vast morphological diversity. They often present as tumours clinically and may have features similar to few other neoplasms [1]. Their diagnosis and management are complicated by their relative infrequency [2]. Three major salivary glands comprising of parotid, submandibular and sublingual however, there are hundreds of minor glands dispersed in the mucosa of upper aerodigestive tract [3]. Although non-neoplastic lesions are relatively common, the tumors of these glands are particularly rare, accounting to <5% of the total head and neck tumors and 2% of all neoplasms [4-6]. According to a majority of studies, the most common site of occurrence of these lesions was parotid, followed by submandibular gland [7,8]. The mean age of occurrence of these benign and malignant lesions is 46 and 47 respectively, with highest recorded in 6th and 7th decades [8]. Pleomorphic adenoma was the most common benign lesion and mucoepidermoid carcinoma was the most common malignant lesion [9].

More than 90% of tumors from sublingual gland are malignant, followed by palate (50%), submandibular gland (35-40%) and only 20-25% of tumours arising from parotid turn out to be malignant [10].

## Aim

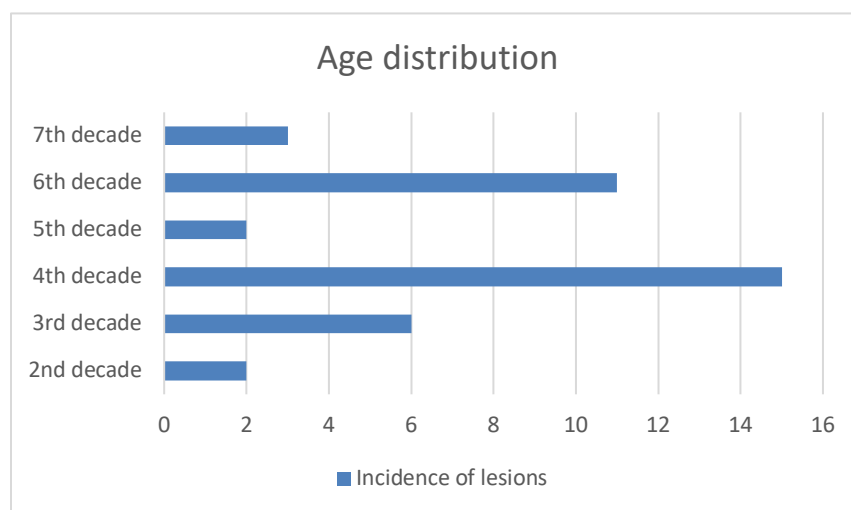
1. To analyse the age, sex and site distribution of salivary gland lesions
2. To study the diversity of morphological patterns

## Materials and Methods

The present study is conducted at the Department of Pathology in RVM institute of Medical Sciences, Siddipet. It is a retrospective study including the specimens received over a period of 32 months from January 2020 to August 2022. The resected specimens of salivary glands received were fixed in 10% neutral buffered formalin, standard processing was done and stained with Haematoxylin and Eosin. Microscopic examination was carried out and the results were recorded. The lesions were classified as non-neoplastic and neoplastic and the tumours were classified according to latest WHO classification of salivary gland tumors.

## Results

A total of 42 specimens were received over the course of 32 months. Of these, 6 cases (14.3%) were non-neoplastic and the rest (85.7%) were neoplastic lesions. The age of the patients ranged from 2<sup>nd</sup> decade to 7<sup>th</sup> decade.



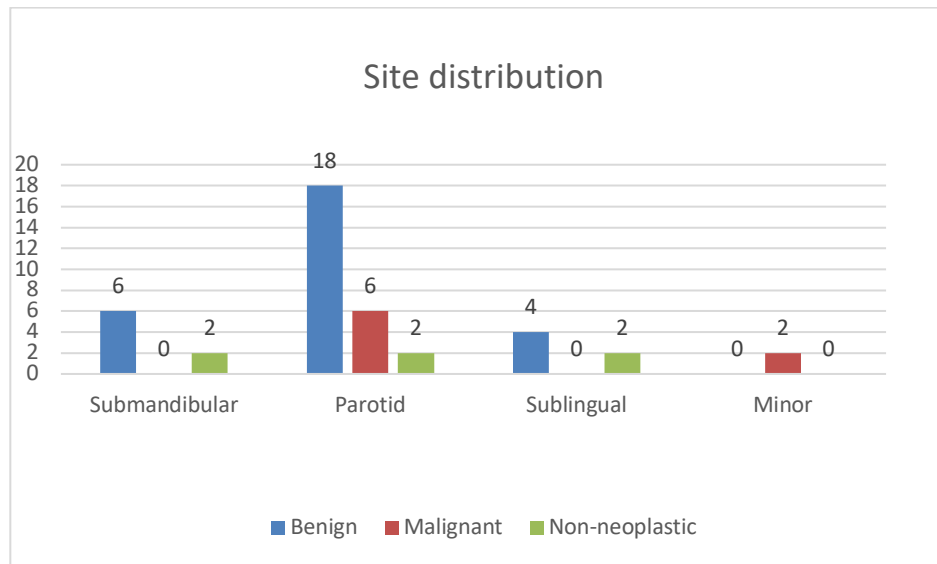
**Figure 1: Age distribution**

Figure 1 shows that most of the lesions occurred in patients between 30-40 years of age i.e 15 out of 42 cases.

Table 1 shows the female predominance with male to female ratio being 1:1.5

**Table 1: Sex distribution**

Sex	Incidence
Male	17
Female	25
Total	42



**Figure 2: Site distribution**

Figure 2 shows that the overall highest as well as highest number of benign and malignant lesions were recorded from the site of parotid.

**Table 2: Spectrum of lesions**

Lesion	Number of lesions (Percentage)
Chronic Sialadenitis	7(16.6%)
Pleomorphic adenoma	19(45.2%)
Basal cell adenoma	2 (4.8%)
Myoepithelioma	6 (14.3%)
Mucoepidermoid carcinoma	6 (14.3%)
Adenoid cystic carcinoma	2 (4.8%)

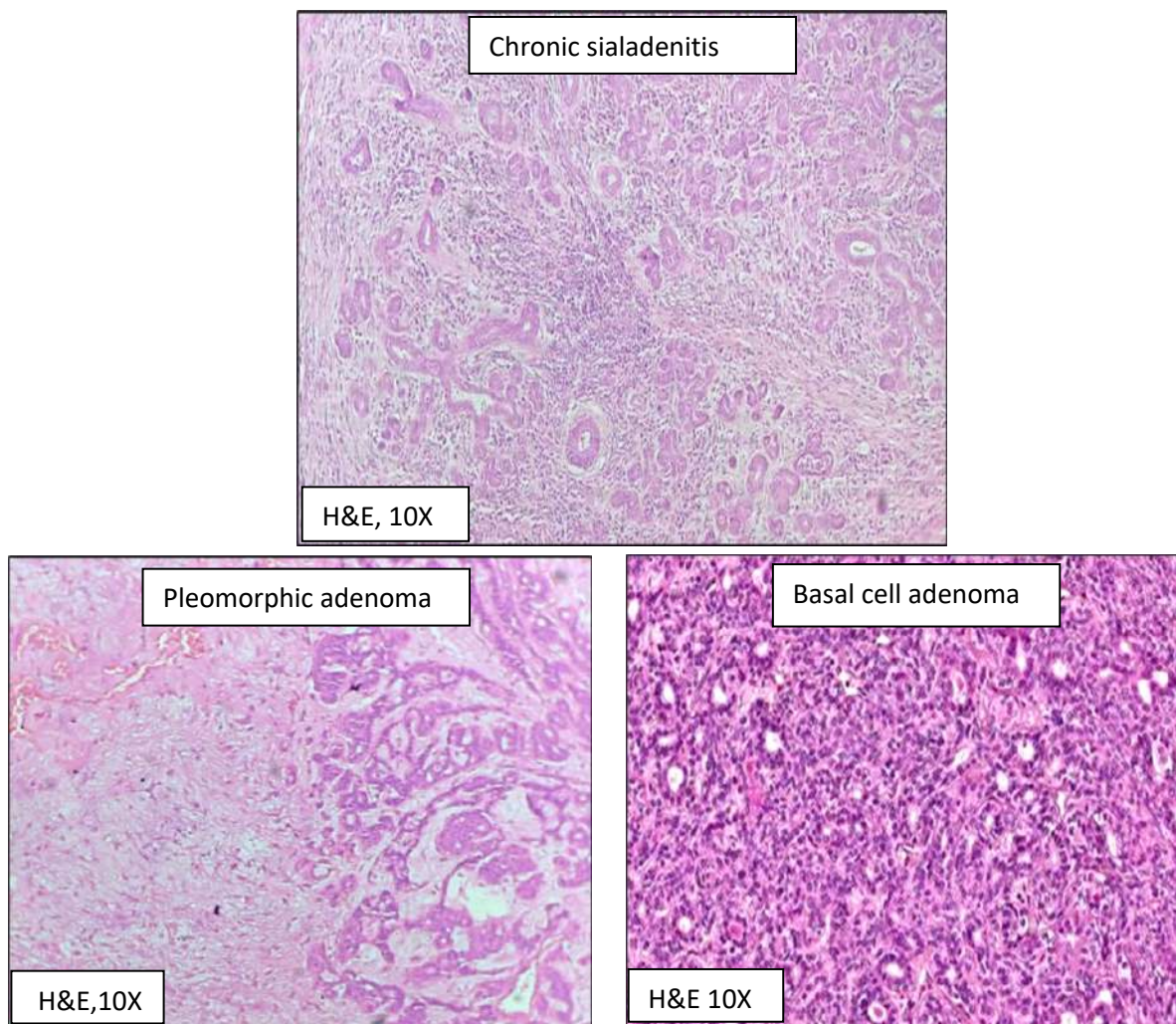


Table 2: Shows that pleomorphic adenoma was the most commonly occurring lesion (45.2%).

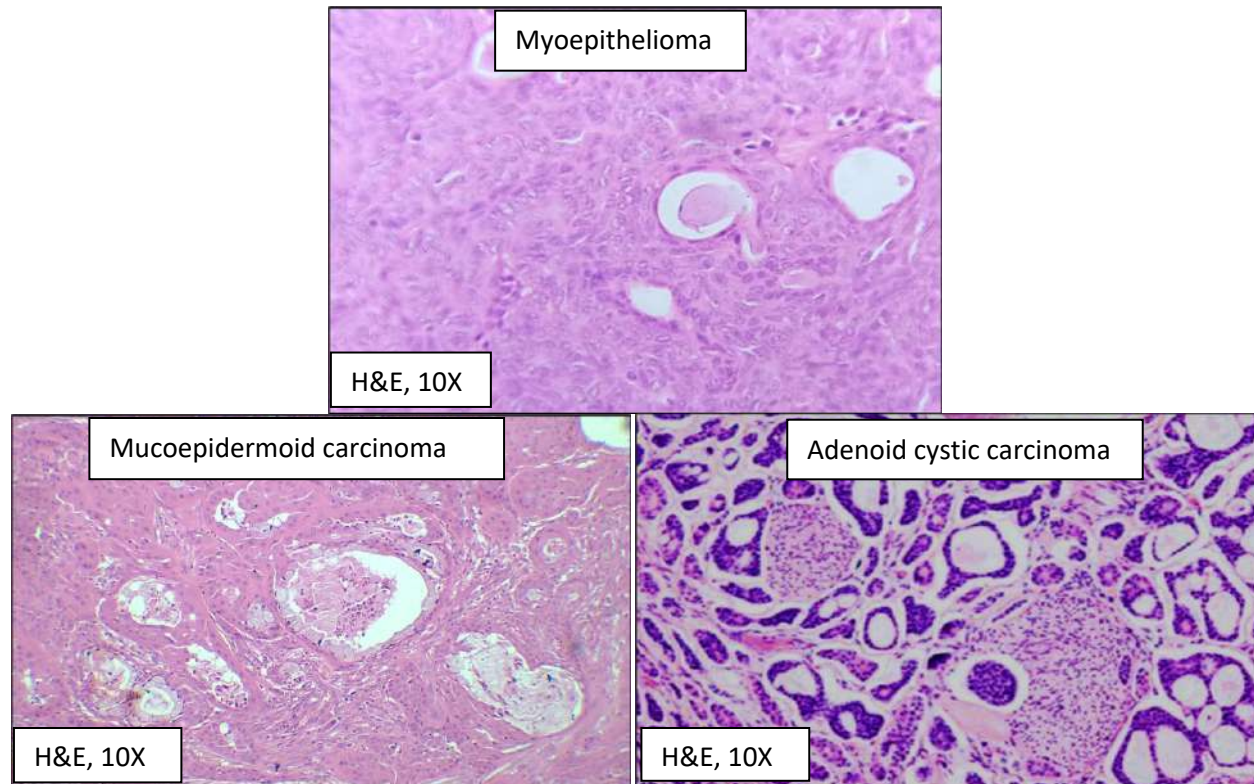
Chronic sialadenitis was the only non-neoplastic lesion (16.6%), seen in almost all major salivary glands.

Mucoepidermoid carcinoma was the most common malignant lesion (14.3%).

In the present study, 14.3% of the cases were non-neoplastic, 66.7% were benign lesions of which, most common was pleomorphic adenoma and 19% were malignant lesions, and most common was mucoepidermoid carcinoma.

**Table 3: Comparison of sex distribution of salivary gland lesions**

Study	M:F
Present study	1:1.5
Bobati SS <i>et al</i> [11]	1:1.8
Pachori G <i>et al</i> [14]	1.1:1
Uploankar <i>et al</i> [12]	2.3:1
Syed Imtiyaz Hussain <i>et al</i> [13]	2.2:1



## Discussion

In present study patients age ranged from 2<sup>nd</sup> to 7<sup>th</sup> decade similar to studies done by Bobati SS *et al* [11] and Uploankar *et al* [12].

Highest number of cases were seen in the 4<sup>th</sup> decade (31-40years) with 35.7% similar to studies done by Uploankar *et al* [12] and Syed Imtiyaz Hussain *et al* [13] with 52% and 22% respectively.

The male to female ratio was 1:1.5 showing female predominance similar to the study done by Bobati SS *et al*. [11] Whereas male predominance was observed in studies by Pachori G *et al*. [14], Uploankar *et al*. [12] and Syed Imtiyaz Hussain *et al*. [13] Most common site of origin was parotid similar to studies by Bobati SS *et al* [11], Pachori G *et al*. [14] and Syed Imtiyaz Hussain *et al*. [13], whereas the study by Uploankar *et al*. [12], most common site was submandibular gland.

In the current study, lesions were predominantly benign 66.7%, followed by malignant 19% and non-neoplastic 14.3%, similar to Bobati SS *et al*. [11] i.e neoplastic 72.8%, malignant 27.1% and Pachori G *et al*. [14] non-neoplastic 43.8%, neoplastic 44.6%, malignant 11.5%. Mallepogugu Anil kumar *et al* [15] and Malliga. S *et al* [16] studies also showed the same pattern. However, in the study by Uploankar *et al*. [12] non-neoplastic lesions were a majority with 54%, followed by benign 32% and malignant 14%.

Pleomorphic adenoma was the most common lesion constituting 45.2 % of all tumors and 66.7% of the benign tumors similar to the above-mentioned studies. Mucoepidermoid carcinoma was the most common malignant lesion in the present study in accordance with studies by Pachori G *et al*. [14], Uploankar *et al*. [12] and Syed Imtiyaz Hussain *et al*. [13] In the study by Bobati SS *et al*. [11], the most

common malignant lesion was adenoid cystic carcinoma.

### Conclusion

The salivary gland lesions are of vast variety. The observations of this study were synchronous with other studies with few variations. Benign lesions have a high incidence when compared to malignant. Pleomorphic adenoma is the most commonly occurring lesion. Histopathological examination holds a prominent role in diagnosing these lesions and due vigilance is advised during the examination especially in differentiating benign and malignant lesions.

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