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Histopathological study of salivary gland lesions

Dr. Praveen A Shinde
Associate Professor, Dept. Of pathology, Heritage Institute of Medical Sciences, National Highway - 2, Varanasi, Uttar Pradesh, India

Abstract
Background: Salivary gland tumors (SGT) are uncommon neoplasms that produce enthusiasm due to their histopathological decent variety and clinical conduct. The primary goal of this article is to study the histopathological range of salivary gland lesions.
Materials and Methods: An investigation of 90 instances of Parotid gland tumors was done in pathology branch of a healing facility in Uttar Pradesh. A tissue bit was taken after definite clinical history and physical examination. After routine tissue preparing and H and staining, histopathological conclusion was made.
Result: Out of 90 cases, 55 (61 %) were benign and 55 (61 %) 35 (39 %) were malignant. M:F proportion of 1.5:1. The mean age watched was 39.6 years with age scope of 18 to 70 years. Pleomorphic adenoma was observed to be the commonest benign tumor, trailed by Warthin tumor. The mucoepidermoid carcinoma was the most widely recognized malignant tumor, trailed by adenoid cystic carcinoma. Parotid was the most well-known site for the area of tumors (68%) trailed by submandibular (17%) and minor salivary organs (15 %).
Conclusion: Pleomorphic adenoma was the commonest salivary organ tumor saw in both genders. Mucoepidermoid carcinoma was the most well-known malignant salivary organ tumor. The parotid organ was the most well-known site of root in both benign and malignant tumors.

Keywords: salivary gland tumor (SGT), Pleomorphic adenoma, warthin tumour

1. Introduction

Salivary glands are exocrine organs in charge of creation and discharge of salivation and comprise of the parotid, submandibular, sublingual, and the minor glands that are various and generally disseminated all through the mouth and oropharynx [1]. Salivary glands neoplasms represent 6% of all head and neck tumors [2].

Salivary glands tumors can demonstrate a striking scope of morphological assorted variety between various tumor types and here and there inside an individual tumor mass. Also, hybrid tumors, de-differentiation and the affinity for some benign tumors to advance to danger can bewilder histopathological translation [3]. Around 80% of the salivary gland tumors are found in the parotid organ, 10-15% in the submandibular organ. The majority of salivary gland tumors (80-85%) are of considerate histology, with pleomorphic adenoma being the most common, constituting 70% of benign tumors [4].

The idea of the lesion can't be resolved on clinical examination and in this manner pathological examination is required for distinct conclusion in associated cases with neoplastic infections. Fine needle yearning cytology has developed as a compelling and delicate system in the determination of salivary gland lesions [5]. It is without chance, fast, basic and economical method. Fine needle desire cytology is a valuable technique for assessing suspicious salivary glands lesions because of its ease, least bleakness, fast turnaround time, high specificity, and affectability [6, 7] By cytological examination, lesions can be partitioned into inflammatory, reactive, benign, or malignant and, if conceivable, particular conclusion is given which helps the clinicians in arranging the administration of the lesion. Salivary glands are not subjected to incisional biopsy or core needle biopsy due to conceivable danger of causing fistula or tumor implantation through the disturbed container [8, 9]

Salivary gland tumors were seen in all ages however the most elevated occurrence is seen in 3th and fourth decades for benign tumors and fourth and fifth decades for malignant tumors. The point of this examination was to perceive different histomorphology of salivary gland tumors, their recurrence, age and site conveyance.

2. Materials and Methods

Exhibit examine was done in the Department of Pathology, in a hospital in Uttar Pradesh. Cases were chosen from the patients going to ENT division or were conceded in the wards and furthermore from the records gave salivary gland swelling in the parotid, submandibular, and sub mental area. In the present examination, 120 instances of salivary gland swelling are incorporated into which cytological and histological investigations were done. Thirty cases were rejected because of meager, deficient suction on FNAC; subsequently just 90 cases were incorporated into this investigation.

FNAC was completed with aseptic safety measures by utilizing dispensable syringe after earlier assent. Cytology smears were wet settled in isopropyl alcohol for Hematoxylin and Eosin stain and PAP stain, and air dried for Giemsa stain. All the surgical examples got in the Department of Pathology

were settled in 10% neutral buffered formalin. Grossing of the samples were completed with most extreme care, noticing the span of the sore, regardless of whether they have delineated or infiltrative borders and nearness of cystic changes were noted with exceptional thoughtfulness regarding the quantity of cysts, single or various, appearance of the surface, shade of the walls, nearness of papillary projections into the lumen of the cyst wall. All the suspicious territories were terribly separated and subjected to histopathological examination. At long last, microscopic examination was done to analyze.

These slides were inspected under low power and high power amplification. The points of interest of cell design, embodiment, perineural and vascular examples and encompassing regions were contemplated. Information procured from examination of every example was processed in methodical way. The gathered information were analyzed measurably and comes about acquired are contrasted and existing investigations in the writing.

3. Result

Out of 90 cases, 55 (61 %) were benign and 35 (39 %) were malignant. M: F proportion of 1.5:1. The mean age watched was 39.6 years with age scope of 18 to 70 years. Pleomorphic adenoma was observed to be the commonest benign tumor, trailed by Warthin tumor and basal cell adenoma. The mucoepidermoid carcinoma was the most widely recognized malignant tumor, trailed by adenoid cystic carcinoma. Parotid was the most well-known site for the area of tumors (68%) trailed by submandibular (17%) and minor salivary organs (15 %).

Table 1: Demographic details of patients under study

Variables	Number
Age (years)	39.6±5.7
Gender	
Male	67
Female	23
Site of lesion	
Parotid gland	61
Submandibular gland	16
Minor salivary gland	13
Clinical presentation	
Swelling at angle of mandible	90
Pain and tenderness	28
Palpable lymph nodes	8
Rapid enlargement	6
Skin involvement	2

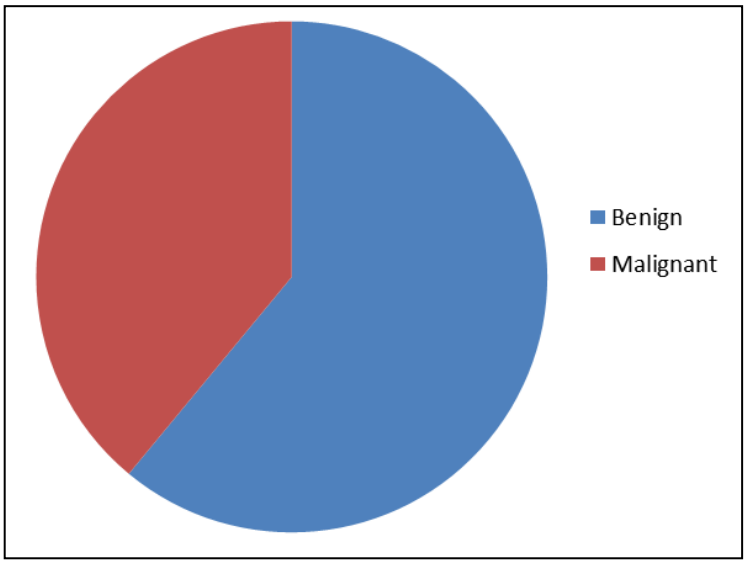

Fig 1: Incidence of benign and malignant tumors

Table 2: Distribution of Benign and Malignant tumors

Tumor type	No of cases
Benign	
Pleomorphic adenoma	34
Warthin's tumor	12
Basal cell adenoma	4
Schwannoma	1
Monomorphic adenoma	2
Myoepithelioma	2
Malignant	
Mucoepidermoid carcinoma	21
Adenoid cystic carcinoma	6
Squamous cell carcinoma	3
Polymorphous low grade adenocarcinoma	2
Carcinoma Ex pleomorphic adenoma	3

4. Discussion

Tumors of salivary glands are generally unprecedented; in any case, their comparative clinical introduction, yet differed morphologic design and moderately capricious prognostic course keep on attracting consideration. As expressed in the writing natural and racial elements have an impressive effect upon the land dispersion of these neoplasms [10]. A morphologically various gathering of uncommon tumors emerges from salivary glands. These tumors have distinctive organic practices and their etiopathogenesis stays obscure. Epidemiologic examinations led in various parts of the world report contrasts in the rate and also recurrence of histological types of SGTs.

This present examination was led over a time of 3 years in one of the tertiary hospital in UP. Investigation of 90 cases was

finished with respect to frequency, age, sex and clinical introduction, gross and minuscule highlights. The outcomes acquired were compared with those of past investigations of understood laborers in this examination and the huge contrasts and likenesses in comes about are talked about beneath.

The benign tumors were more typical than malignant tumors in our examination. Regarding relative extents, give consider corresponds different studies Ito *et al* [11], Edda *et al* [12], Ahmed *et al* [13] and Nagarkar *et al* [14]. Benign tumors are seen at younger age contrasted with malignant tumors. Our study corresponds Edda *et al* [11] and Ahmed *et al* [13]. In the present investigation a male dominance was noted with a male: female proportion of 1.5:1. This is in concurrence with arrangement announced by Potdar GG *et al* [15] Spiro *et al* [16]. In any case; this was rather than the arrangement detailed by Dandapat *et al* [17] and Rewsuwan *et al* [18] who announced a female prevalence in their arrangement.

In the present arrangement mean age watched was 39.6±5.7years with an age scope of 18 to 70 years. Benign salivary organ tumors were more typical in age gathering of 30 to 40 years and the pinnacle age occurrence watched for harmful salivary gland tumors was 41 to 50 years. Chatterjee *et al*. watched vast number of considerate cases in third decade took after by fourth decade [19]. Malignancy revealed in his investigation was transcendent in the fifth decade. In our examination, Pleomorphic adenoma was the most well-known salivary gland tumor saw in both genders. Mucoepidermoid carcinoma was the most well-known among the malignant salivary organ tumors took after by adenoid cystic carcinoma. Shrestha *et al* [20]. have done a review investigation of 176 instances of salivary gland tumors; pleomorphic adenoma was observed to be the most widely recognized favorable tumor (72.7%), trailed by Warthin tumor (15.1%). Bashir *et al* [21]. led a blend consider was finished with review information of 8 years and imminent information of 2 years. Out of aggregate 90 cases, (61%) were benign and (39%) were malignant. Parotid was the most widely recognized site for the area of tumors (61%) trailed by submandibular (16%) and minor salivary organs (13%).

Adenoid cystic carcinoma displayed the most noticeably awful conduct among all SGTs broke down. This tumor has a moderate development design with the early nerve and lymph node association. Propelled tumors require surgery and radiation treatment In the present examination, adenoid cystic carcinoma repeated in 6 cases and demise happened in an extra two cases. Carcinoma ex pleomorphic adenoma is an occasional aggressive malignancy that is accepted to develop from a prior benign adenoma. It represents 3.6% (territory, 0.9%– 14%) of every salivary neoplasm and for 11.7% (territory, 2.8%– 42.4%) of salivary malignancies. We discovered 3 instances of carcinoma ex pleomorphic adenoma of the parotid gland.

The high precision, affectability, and specificity of FNAC affirm that preoperative cytology is a helpful, snappy, dependable demonstrative system for quick and early determination and we likewise infer that it is basic and savvy analytic instrument reasonable for creating nations [22, 23] Elements that impact SGT conduct and visualization ought to be examined further.

5. Conclusion

In this review consider, major salivary glands were more influenced than minor organs and parotid being the most well-known site. Pleomorphic adenoma and Mucoepidermoid carcinoma were the most widely recognized benign and malignant tumors. Males were transcendently influenced by both benign and malignant lesions. The examination adds to the attention to neurotic highlights and age, sex, site conveyance of the salivary gland tumors. Variables that impact conduct and prognosis of these tumors ought to be researched further.

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