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Demographic AndClinico-Pathological Study of Salivary Neoplasms

*Dr. Vijayalaxmi[1,]M,Dr.SwaminadhP[2],Dr.Shekar Y Tati[3]
Dr.Vasanth Rao Gattu[3],Dr.Alekya Nakka[4],Dr. Avinash C[4],Dr. Ashok T[4],
Dr. Priyanka[4]

[1]Asso. Professor, [2]Asst. Professor, [3]Professor, [4] post graduates
Department of GeneralSurgery,MediCiti Institute of Medical Sciences,Ghanpur – TS, South India.
*Corresponding Author: *Dr. Vijayalaxmi*

Abstract:
Introduction:*Salivary neoplasms (SN) are rare but not uncommoncondition. Benign and malignant tumors can arise from both epithelial and mesenchymal cells. Parotid gland is most commonly involved. Diagnosis and treatment remain complex and challenging since facial nerve passes right through the middle of the gland.*
Material and methods: *we obtained following data from medical record. We had 30 cases of salivary neoplasms.Out of 30, 28 were parotidneoplasms , 1 from submandibular gland and 1 from minor salivary gland. Among 28 parotid neoplasms, 25 were benigntumors and 3 were malignant tumors. Out of 25 benign tumors, 22 were pleomorphic adenomas and 3 were Warthinstumors. Among malignant parotid neoplasms,2 were mucoepidermoid and 1 adenoid cystic carcinoma. Though age incidence was spanned from 2nd - 6th, more number of cases we observed indecades. Sex incidence: Male to female ratio is 1.5:1 showing little male preponderance. FNAC was more diagnostic in pleomorphic adenoma, inconclusive in case ofWarthins tumor andmalignant tumors.*
Treatment: Superficial parotidectomy was done including malignant tumors. submandibular gland andminor salivary gland tumor was excised.The aim of our study is to evaluate the demographic and clinicopathological data of salivary neoplasm in our area.
Keywords: *Adenoid cystic carcinoma, Mucoepidermoid carcinoma, Pleomorphic adenoma (PA), Salivary neoplasms (SN)andWarthins tumor (WT).*

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I. Introduction

Salivary neoplasms are rare,presents as wide variety of benign and malignant tumors of epithelial and mesenchymal cell origin. The malignant salivary neoplasms are accounts 4- 6% of all head and neck tumors [1]. Diagnosis and treatment remain complex and challenging since facial nerve passes right through middle of the gland and pose considerable problem in identifying and safe guarding the nerve. Parotid is most commonly involved salivary gland(70-80%) followed by submandibular (20%) and sublingual and minor salivary glands (8%) [2].Malignant potentiality increases from parotid to submandibular and minor salivary glands. The benign to malignant sequence ratio maintained, in parotid is 80% benign and 20% malignant, in submandibular 50% and 50% and 25% and 75% in minor salivary glands [3].

Clinical diagnosisis straightforward in pleomorphic adenoma as it is presents as firm to hard painless mass in front or below the ear.The swelling below the ear will obliterate the retro-mandibular sulcus, which is a diagnostic feature of parotid swelling unless otherwise proved. FNAC have 100% diagnostic valuein pleomorphic adenoma, whereas inconclusive inWarthins tumor and malignant lesions.CT and MR pictures are advised in malignant tumor with lymph nodal masses and fixed tumor.

Superficial parotidectomyis the treatment of the choice in benign parotid lesions. Superficial to radical parotidectomy is carried out in case of malignancies. Peeling of tumor from facial nerve branches is being practiced in low grade parotid malignancies. Classical radical excision is carried out in high grade tumor with local infiltration and perineural invasion [3]

Aim: The aim of this study was to evaluate the demographic and clinicopathologic data of salivary gland neoplasms and compare statistical values with literature.

Type of the Study: Retrospective/prospective study from September 2011to December 2016.

Place of study: The study was undertaken in the Department of General Surgery, MediCiti Institute of Medical Sciences, a tertiary care hospital in the suburb of Hyderabad city,Telangana State – south India.
Sample size: 30 cases, which were clinically diagnosed as salivary neoplasms in the department of general surgery.
Inclusion criteria: Both benign and malignant neoplasms of the salivary glands are included.
Exclusion criteria: Inflammatory lesionsof salivary glands were excluded

II. Materials and Methods

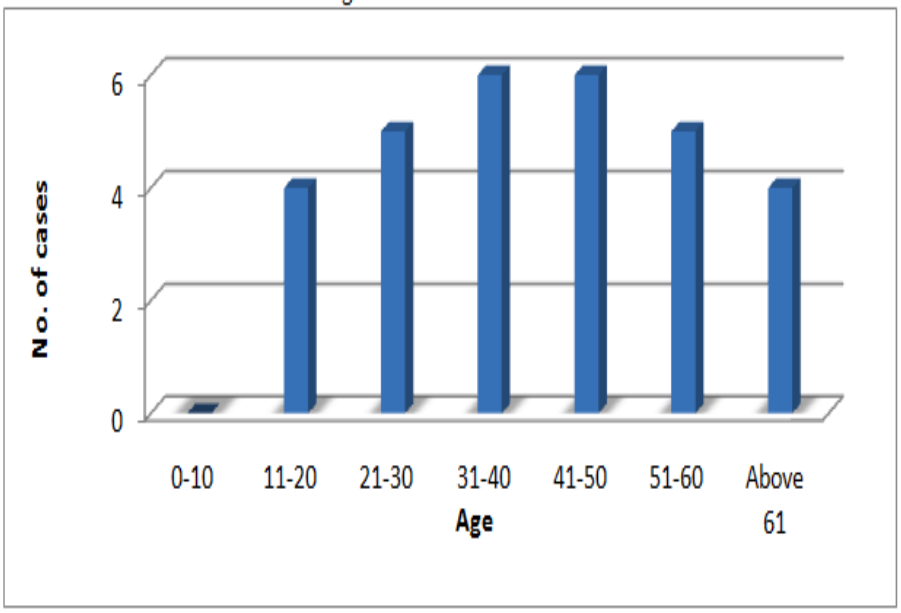
2.1 Salivary neoplasms

Total no. of salivary neoplasms 30
Parotid neoplasms 28
Submandibular neoplasm01
Minor salivary gland neoplasm01

Out of 30 salivary neoplasms 28 were parotid neoplasmsaccounts (93.33%), followed by submandibular salivary neoplasms 1(3.33%)which was reported as pleomorphic adenoma and 1 (3.33%) from minor salivary gland, which was reported as polymorphous low-grade adenocarcinoma.

Age incidence	0-10	11-20	21-30	31-40	41-50	51-60	61 and above
No. of cases	**0**	**4**	**5**	**6**	**6**	**5**	**4**

Table 1: Age distribution of number of cases



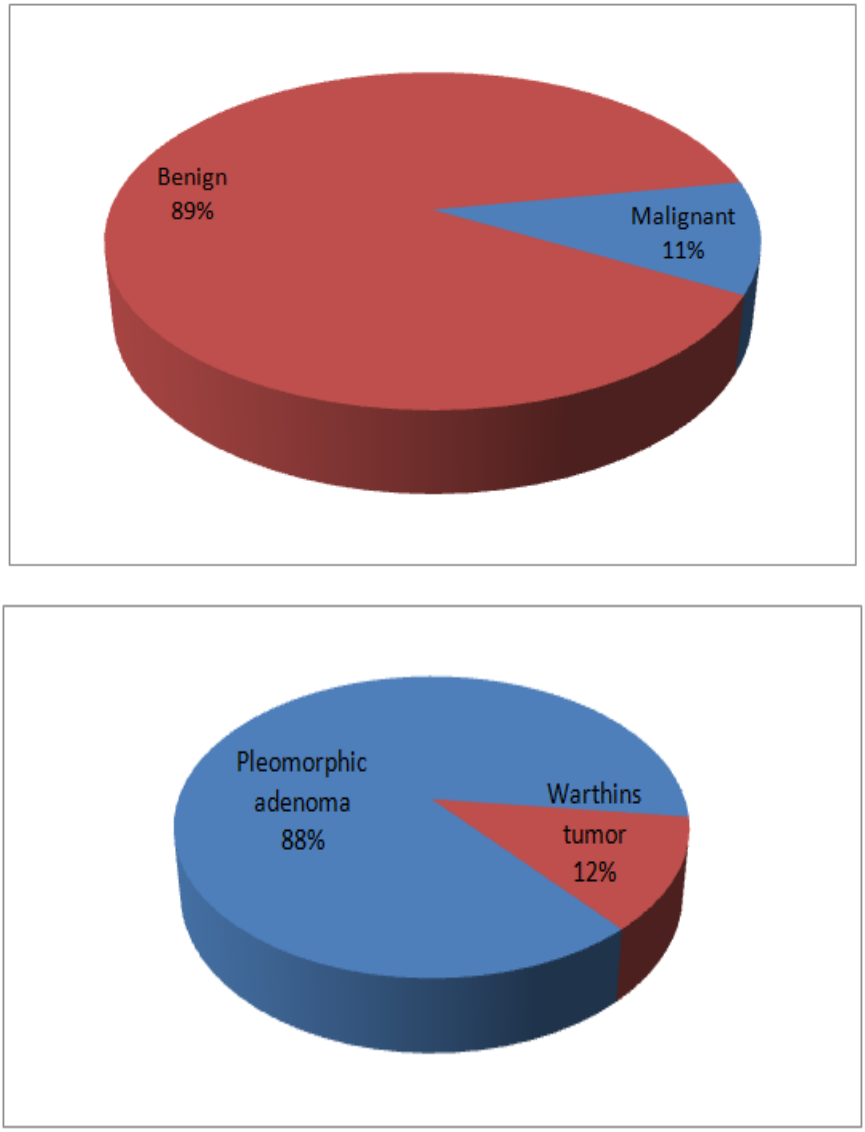
Graph 1: Age distribution of number of cases

Theage incidence was spanned from 3rd to 6th decades, however more number of cases reported in 4th and 5th decades, same is shown in the table.1and graph. 1. Overall mean age is 46.2 years. Sex incidence, we had 18 males 12 females with male: female ratio is 1.5:1 showing little male predominance.

2.2. Parotid neoplasms

Total parotid neoplasms	28	
Pleomorphic adenoma	22	(88.00%)
Warthins tumor	03	(12.00%)
Malignant	03	(10.71%)

Table 2: Histopathological types of parotid neoplasms



Graph 2& 3: Histopathological types of parotid neoplasms

Parotid neoplasms (PN)were 28, out of 30 salivary neoplasms accounts 93.33%. Among 28 PN pleomorphic adenomas (PA) 22 accounts (88%) followed by 3 Warthins tumor (WT)accounts (12%) and 3 were reported as malignant tumors, 2 were low grade mucoepidermoid and 1 was adenoid cystic carcinoma as shown in graph 2&3. Out 28 PN 16 (57.14) was arising from right gland and 12 (42.85) from left gland. As per site of the tumor within the gland, 15 patients (53.57) having the tumor in front of the tumor, while 13 patients (46.42) had below the ear.

FNAC was 100% diagnostic in PA, WTdiagnostic significance variable, 1 is reported WT, the other 2 reported as benign cystic lesions. FNAC was also in conclusive in malignant tumors. All cases underwent superficial parotidectomy. Post operatively 5 patients developed temporary facial palsy recovered completely after 2-3 weeks periods.

III. Discussion:

Salivary neoplasms (SN) are rare, present wide variety of benign and malignant tumors of epithelial and mesenchymal cell origin. The malignant salivary neoplasms account 4-6% of all head and neck tumors [1]and 0.3 % of all malignancies [2].Diagnosis and treatment remained complex and challenging since, facial nerve passes through the gland making superficial and deep lobes. This anatomy makesdissection more complicate during excisionof the tumor. Salivary neoplasms are more common in elder age group and common after 30 years of age. In our studyage incidence is widely distributed from second to six an above however,more

numberof cases reported in 4th and 5th decades as shoen in table 1 and graph 1, overall mean age is 46.2. Sex incidence, we have come across 18 males and 12 females, with male female ratio 1.5: 1, showing little male preponderance. Strong female predominance is reported in European and Latin America population [4]. No known etiological factors are available, radiation exposure is not recognized as risk factor,however some studies claimsmoking and use of cellular phone is responsible for the development of salivary gland neoplasms[5-7].Smoking has got bearing effect as an etiological factor in Warthins tumor.

As per the literature 70-80 % of neoplasms arise from parotid gland followed by 20% from sub mandibular gland and 8-10% from minor salivary glands. In our study all of them were arising from parotid except 2making93. 33%.Out of the remaining 2, 1 was arising from submandibular gland which was reported as pleomorphic adenoma and other1was arising from minor salivary gland of buccalmucosa of the right cheek, which was repotted as malignant polymorphous low-grade adenocarcinoma. Malignant potentiality differs from site of the gland. Parotid gland from benign to malignant sequence is 80% and 20%, submandibular gland 50% and 50% and sublingual and minor salivary gland 25% benign and 75% are malignant tumors.[3]

Pleomorphic adenoma (PA) is invariably most common tumor among all salivary gland neoplasms with reported rate from 60% to 80 % [2, 4, and 10].In our study 22 pleomorphic adenomas reported out of 30 making 89.28%, little more than what is mentioned in the literature. Warthins tumor (WT) is the next common benign tumor arising from parotid is [8, 9].In our study3 cases of WT was reported out of 28 parotid neoplasms making 10.71% as against 17.8 % in the literature. Very low incidence rates even zero percent of Warthins tumor were also reportedin the literature[9.10].Pleomorphic adenoma presents as firm to hard mass sometimes lobulated surface whereasWarthins tumor presents as cystic lesion.As per our observation 16 patients (57. 15%) had right parotid gland swelling,left parotid gland swellings were12 (42.85%). Within the gland 15 (53.57%) patients had tumorin front of the ear and 13 (46.43) patients had tumor below the ear lobule classically obliterating the retromandibular sulcus.Neural tumors like neurofibroma, schwannoma and plexiformneurofibroma are commonly encountered non epithelial tumors.

FNAC had 100% diagnostic value in pleomorphic adenoma whereas FNAC was inconclusive in Warthins tumor and malignant lesions. No role of core cut or incisional biopsy is indicated in parotid neoplasms since; local recurrence rate is high following these biopsy procedures. It also encourages local and systemic spread in case of malignant lesions. CT and MR pictures are advised if tumor presents with lymph nodal masses with fixed tumor which helps in locating the tumor site, extension and relation to surrounding structures and also helps in staging the disease and planning the extent of the excision.

Superficial parotidectomy is the treatment of the choice in case of benign lesions in the superficial lobe;whereas total parotidectomy is the treatment of choice in deep lobe tumors. Superficial parotidectomy to radical parotidectomy is carried out in case of malignancies. Peeling of malignant tumor from facial nerve branches is being practiced in parotid malignancies. Classical radical parotidectomy is carried out in high grade tumor with perineural invasion (3).However classical radical parotidectomyis a mutilating one and grossly disfigures the face.

IV. Conclusion

In this study though sample size is very small, we observed male preponderance against female preponderance in the literature. Female preponderance is more observed in Europe and Latin American countries. Age incidence is also little varied, in our study more number of cases were distributed form 3rd to 6th decades almost equally. Majority of the neoplasms arise from parotid gland, most of them are benign and pleomorphic adenoma is most common benign tumor followed by Warthins tumor. Right parotid is more commonly involved than the left parotid. Another interesting finding is, tumors located in front of theear out numbering than the tumor arising from below the ear ie, lower pole. Malignant and epithelial tumors are also common in the parotid. Mucopeidermoid and adenoid cystic are the common malignant tumors. 1pleomorphc adenoma was arising from submandibular gland, 1 from minor salivary gland arising frombuccal mucosa of the right cheek, turned out to be a malignant.

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References

[1]. Guzzo M, Locati LD, Prott FJ, Gatta G, McGurk M, Licitra L. Major and minor salivary gland tumors. Crit Rev OncolHematol. 2010; 74:134–148.

[2]. Tumors of the salivary glands. In: Barnes L, Eveson JW, Reichart P, Sidransky D (eds) World HealthOrganization classification of tumors: pathology and genetics of head & neck tumors. IARC Press, Lyon,2005; pp 208-281.

[3]. Courtney M. Townsend, R. Daniel Beauchamp, B.Mark Evers, Kenneth L. Mattox; Sabiston text book of surgeyManesar; : Elsevier, Ed. 19th, 2015; vol (i) 811-813.

[4]. Fonseca FP, de VasconcelosCarvalho M, de Almeida OP, Rangel AL, Takizawa MC, Bueno AG, Vargas PA. Clinicopathologic analysis of 493 cases of salivary gland tumors in a Southern Brazilian population. Oral Surg Oral Med Oral Pathol Oral Radiol. 2012;114:230–239

[5]. Eveson JW, Cawson RA. Salivary gland tumours. A review of 2410 cases with particular reference to histological types, site, age and sex distribution. J Pathol. 1985;146:51–8.

[6]. Main JH, Orr JA, McGurk FM, McComb RJ, Mock D. Salivary gland tumors: Review of 643 cases. J Oral Pathol. 1976; 5:88–102.

[7]. Toida M, Shimokawa K, Makita H, Kato K, Kobayashi A, Kusunoki Y, et al. Intraoral minor salivary gland tumors: A clinicopathological study of 82 cases. Int J Oral Maxillofac Surg. 2005; 34:528–32.

[8]. Bradley PJ, McGurk M. Incidence of salivary gland neoplasms in a defined UK population. Br J Oral Maxillofac Surg. 2013; 51:399–403.

[9]. Subhashraj K. Salivary gland tumors: A single institution experience in India. Br J OralMaxillofac Surg. 2008; 46:635–8.

[10]. Yih WY, Kratochvil FJ, Stewart JC. Intraoral minor salivary gland neoplasms: Review of 213 cases. J Oral Maxillofac Surg. 2005; 63:805–10.

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