



CLINICO PATHOLOGICAL STUDY OF TUMOURS OF PAROTID GLAND IN TERTIARY CARE HOSPITAL, PENCHIKALAPADU, KURNOOL

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ABSTRACT **purpose:** The objective of the study was to study age and sex pattern in parotid gland tumors, and determine the accuracy of fine needle aspiration cytology in diagnosing parotid gland tumors, and also analyze different modes of surgeries for parotid gland tumors. **Design:** Detailed study of thirty cases of parotid gland tumors admitted to viswabarathi medical college, penchikalapadu, Kurnool from January -2021 to January 2022. **Results:** Out of 30 cases , 23 were benign tumors , 19, pleomorphic adenoma , 2 warthin's tumor, 2 basal cell adenoma, while of 19 pleomorphic adenoma, male being 10 as compared to 9 female. The maximum of cases were seen in fourth and sixth decade followed by third and then fifth decade. Malignant tumors has male to female ratio of 4:3 with predominance of third and sixth decade. All 23 cases of benign parotid tumors, i.e., 19 pleomorphic adenomas, 2 warthin's tumor and 2 basal cell adenomas were correctly diagnosed by FNAC. Hence the accuracy of FNAC in diagnosing benign parotid tumors in this series was 100%. In malignant tumors, five of seven cases were correctly diagnosed by FNAC. The accuracy of FNAC in diagnosing malignant parotid tumors is 71.4 %. All pleomorphic adenomas were offered superficial parotidectomy except one where a total parotidectomy with conservation of facial nerve was done due to involvement of deep lobe. Of the other 4 benign tumors, all underwent superficial parotidectomy. In malignant tumors superficial parotidectomy with irradiation was offered in 3 cases, total conservative parotidectomy with irradiation in 1 case , total radical parotidectomy was offered in 3 cases. **Conclusion:** parotid gland tumors, has a male preponderance in both benign and malignant tumors, with 10:9 and 4:3 respectively. The accuracy of FNAC is 100% in benign tumors as compared to 71.4%. FNAC is a good tool in diagnosing benign parotid gland tumors, but should be cautiously interpreted in malignant tumors.

KEYWORDS : parotid tumors, benign, malignant , sex, age, FNAC, surgery.

INTRODUCTION

The major salivary glands are parotid glands, submandibular glands and sublingual glands.¹ Tumors of the salivary gland are uncommon and represent less than 2% of all head and neck tumors.²

Majority of tumors arise in the parotid gland 70%, whereas tumors of submandibular gland are 22%, and sublingual and minor salivary glands 8% are less common.

The ratio of malignant to benign tumors varies by site. Parotid 80% benign, 20% malignant, submandibular and Sublingual gland- 50% benign and 50% malignant, minor salivary glands-25% benign and 75% malignant.¹

Among major salivary glands, benign tumors occur more commonly in females and malignant tumors are frequent in males. The majority of malignant salivary gland tumors occurs in fifth and sixth decade , where as 2% occur in children under 10 years of age and 16% occur in those less than 30 years of age.³

Patients with parotid gland neoplasm's usually present with asymptomatic slowly enlarging masses. Parotid gland neoplasm's usually occur in tail of parotid gland.⁴ Facial nerve involvement is rare in benign tumors , if present is due to impairment resulting from pressure effect.⁵

Presence or absence of pain does not distinguish the benign tumor from malignant. 15 5% of benign and 6% of malignant salivary gland tumors have pain along with mass.⁶ malignant tumors with pain have worst prognosis with an over all 5 year survival of 33% as compared to 66% without pain.⁷

Facial paralysis on presentation has grave prognosis, which is 12-14% with a five year mortality approaching 100%.⁸

FNAC is a simple and reliable method for obtaining a diagnosis of salivary gland neoplasm with a sensitivity of 85 – 95% and specificity >98%.

Assessment of extent of disease process the design of optimal incision

and methods of facial nerve identification are essential parts of surgery.⁹ Surgical treatment for salivary gland neoplasm's are Superficial parotidectomy , Total parotidectomy, Neck Dissection and Radiotherapy.

MATERIALS AND METHODS:

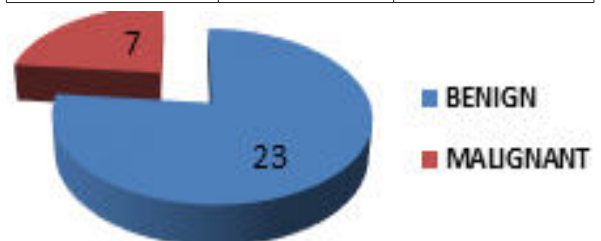
OBSERVATIONS AND RESULTS:

The series consists of thirty cases of parotid gland tumors admitted and treated in viswabarathi medical college, Kurnool from January 2021 – January 2022.

Out of 30 cases in this series , 23 of them were benign and 7 were malignant. Benign tumors comprised 76.6% and malignant tumors 23.4%. (Table 1).

TABLE-1 TUMORS OF PAROTID GLAND

Types of tumor	No fo cases	Percentage
Benign tumor	23	76.6%
Malignant tumor	7	23.4%
Total	30	100



Out of 23 cases, majority were pleomorphic adenoma that is 19, 10 were male and 9 were females. Warthin tumor both were females and basal cell adenoma, 1 male and 1 female. Malignant cases were 7 , comprising mostly of mucoepidermoid carcinoma 4, followed each by pleomorphic adenocarcinoma, adenocarcinoma, adenoid cystic carcinoma. Of the 7 malignant cases, 4 were males which accounted to 57.1 % of cases and 3 were females which counted to 42.9 % . (Table 2&3).

TABLE-2 BENIGN TUMORS OF PAROTID GLAND

Benign tumors	No. of cases	percentage
Pleomorphic adenoma	19	82.60
Warthin's tumor	2	8.7
Basal cell adenoma	2	8.7
Total	23	100

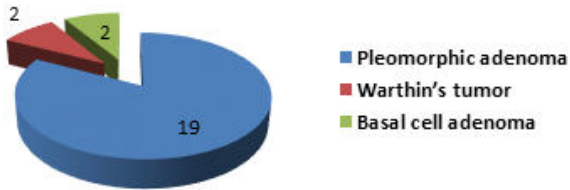
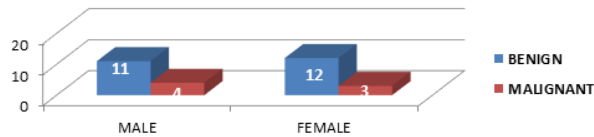


TABLE-3 SEX WISE DISTRIBUTION OF TUMORS OF PAROTID GLAND

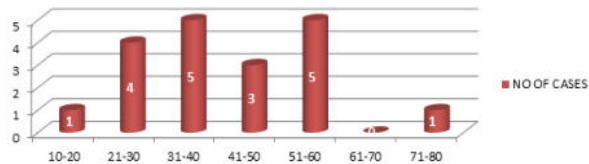
Type of tumor	Male	Female	Total
Benign	11	12	23
Malignant	4	3	7
Total	15	15	30



Age wise distribution, maximum cases were seen in 4 and 6 decades, pleomorphic adenoma constituted disease of middle age. (Table 4).

TABLE -4 AGE WISE DISTRIBUTION OF PLEOMORPHIC ADENOMAS

Age in years	No of cases
10-20	1
20-30	4
31-40	5
41-50	3
51-60	5
61-70	0
71-80	1
Total	19



All 23 cases of benign parotid tumors were correctly diagnosed by FNAC. Hence the accuracy of FNAC in diagnosing benign parotid tumors in the series was 100%. The accuracy of FNAC in diagnosing malignant parotid tumors was 71.4 %. Difficulty in diagnosing was encountered in two cases of pleomorphic adenocarcinoma and mucoepidermoid carcinoma. (Table 5&6).

TABLE-5 ACCURACY OF FNAC IN DIAGNOSING BENIGN PAROTID TUMORS

Benign parotid tumor	FNAC	HPE	ACCURACY(%)
Pleomorphic adenoma	19	19	100
Warthin's tumor	2	2	100
Basal cell adenoma	2	2	100
Total	23	23	100

All the 22 cases of 23 benign tumors were treated with superficial parotidectomy, except one case of pleomorphic adenoma required total parotidectomy with conservation of facial nerve. Of the 7 cases of malignant parotid tumors, 3 cases underwent superficial parotidectomy with radiation, total conservative parotidectomy with irradiation is done in 1 case, total radical parotidectomy in 3, and total radical parotidectomy with irradiation in one case. (Table 7 & 8).

TABLE-6 ACCURACY OF FNAC IN DIAGNOSING MALIGNANT PAROTID TUMORS

Tumor type	FNAC	HPE	ACCURACY(%)
Mucoepidermoid carcinoma	3	4	75

Pleomorphic adenocarcinoma	0	1	0
Adenocarcinoma	1	1	100
Adenoid cystic carcinoma	1	1	100
Total	5	7	71.4

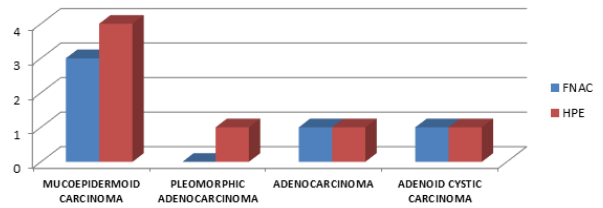


TABLE-7 NATURE OF TREATMENT FOR BENIGN TUMORS

Nature of treatment	Number of cases
Superficial parotidectomy	22
Total parotidectomy with conservation of facial nerve	1
Total	23

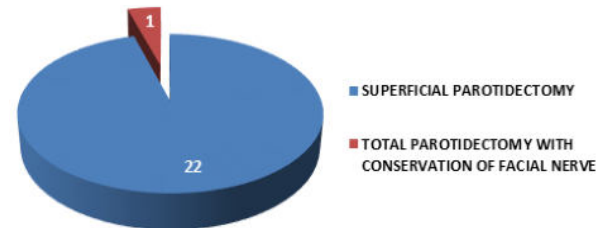
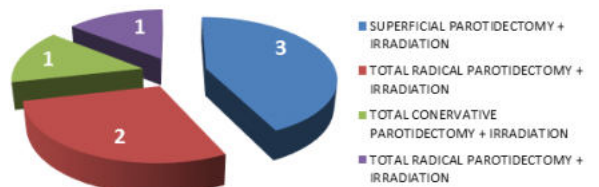


TABLE-8 NATURE OF TREATMENT FOR MALIGNANT PAROTID TUMORS

Type of treatment	No of cases
Superficial parotidectomy + irradiation	3
Total radical parotidectomy + irradiation	2
Total conservative parotidectomy + irradiation	2
Total radical parotidectomy	2
Total	7



CONCLUSIONS

Most of the patients presenting with parotid tumors are middle aged and malignant tumors are 21-30 and 51-60 age groups. Pleomorphic adenomas are the most common benign tumors where as mucoepidermoid carcinoma, the most common in malignant type (27.1%).

The accuracy of FNAC in diagnosing benign parotid tumors was 100%, and that for malignant tumor was 71.4%. FNAC is good preliminary test for diagnosing parotid gland tumors. FNAC is a simple, bed side procedure that is routinely done.

FNAC is a good tool in diagnosing benign parotid gland tumors but it must be cautiously interpreted in case of malignant parotid tumors.

All benign cases superficial parotidectomy sufficed except in one case where deep lobe was involved and a facial nerve sparing total parotidectomy was done. In malignant tumors, total parotidectomy with or without radiation is considered. Facial nerve palsy was most common complication encountered (28.6%).

REFERENCES

- Lorenz RR, Marion E Couch, Burkey BB Head and Neck – salivary gland neoplasms. In : Townsend CM, Beauchamp RD, Evers BM, Mattox KL Edts, Sabiston text book of surgery. The biological basis of modern surgical practice. 19 th edn, vol. 1. Saunders;2012:811:813.
- Wein RO, Chandra RK, Weber RS. Disorders of the Head and Neck – Salivary gland tumors. In Briuncardi FC, Anderson DK, Billar TR, dunn DL, Hunter JG, Pollock RE eds, Schwartz's principles of surgery 9th edn. McGraw Hill;2005:507:509.
- Rice DH. Salivary gland diseases malignant salivary gland neoplasms. In: Rice DH, Eisele DW eds, The otolaryngologic clinics of North America. W.B. Saunders

- 1999;32(5):875-886.
4. Califano JC, Eisele DW. Benign salivary gland neoplasm. *Otolaryngology Clinics of North America*. 1999; 35; 861-873.
5. Suen JY, Synderman NL. Salivary glands – Benign neoplasms of the salivary glands. In: Cummings CW, Fredrickson JM, Harker LA, Krause CJ, Schullae DE eds, *Otolaryngology – Head and neck surgery* 2nd edn. Mosby 2:1029-1042.
6. Eneroth CM. Histopathological and clinical aspects of parotid tumors. *Acta Otolaryngol* 1963.
7. Mustard RA, Anderson W, Malignant tumors of the parotid gland. *Ann Surg* 1964; 159:291.
8. Eneroth CM, Hamberger CA. Principles of different types of parotid tumours. *Laryngoscope* 1974;84:1732.
9. Sinha UK, Matthew NG. Surgery of the salivary glands, In: Rice DH, Eisele DW eds, *Otolaryngologic clinics of North America – salivary gland diseases*. W.B. Saunders 1999;32(5) 887-906.