



OUR EXPERIENCE WITH PAROTID GLAND TUMOR

ENT

Ranbir Kumar Pandey

Professor , department of ENT,RIMS Ranchi.

Shiwani Kanth

Junior resident, department of ENT, RIMS Ranchi.

Gajendra nayak

Senior resident, department of ENT ,RIMS Ranchi.

Rajeev saxena*

Senior resident, department of ENT, MGM Medical College, and Hospital, Jamshedpur.

*Corresponding Author

ABSTRACT

Objective: To assess clinical presentations of parotid gland tumors and various surgical methods adopted for its treatment. **Material and method:** The study was carried out on patients who gave consent and presented with parotid lump in ENT department RIMS , Ranchi. Total 35 patients were studied. Preoperative diagnosis was made by FNAC along with imaging modality. Confirm diagnosis was made by sending post operated outcome for histopathological examination. **Result:** Out of 35 patients 21(60%) were male and 14(40%) were female with Male:Female ratio:3:2. Mean age of presentation was 42 years . All patients presented with lump (100%) followed by pain(17%). Most common benign tumor was pleomorphic adenoma (57%) whereas most common malignant tumor was mucoepidermoid carcinoma(11%). Superficial parotidectomy being the most common surgical method adopted. **Conclusion :** Parotid gland disorders affect male more than female. Most of the patients present with benign pathology, superficial parotidectomy is the commonly offered surgical management. All parotid surgeries are safely performed in Department of ENT with minimal post operative complications.

KEYWORDS

parotid gland tumors, pleomorphic adenoma, parotidectomy

INTRODUCTION

Salivary gland tumor accounts for about 3-4% of all head and neck malignancies.¹ Among them parotid gland is most commonly affected salivary gland.² Parotid gland is primarily a serous gland that is located high in the neck in the pre-aucular area extending towards the cheek. The extra-temporal facial nerve and its branches pass through the parotid gland and supply motor innervations to the muscles of facial expression.³ Majority of tumors arise from superficial lobe but rarely can arise from deep lobe and present as parapharyngeal masses with a diffuse bulge in the soft palate & tonsillar region.⁴ Salivary gland tumors tend to be the most complex and diverse group of tumors encountered by head and neck oncologists. The sheer number and diversity of salivary gland tumors and lack of characteristic clinical presentation render its pre-operative diagnosis and management difficult. For proper management, diagnosis has to be accurate and there should be clear understanding of surgical anatomy of parotid gland. Surgical excision is an effective treatment for parotid gland pathologies. Various operative procedures can be adopted for treatment of both benign and malignant lesions. Adjuvant radiotherapy can be given for management of some aggressive malignant lesions. The present study was conducted to assess the clinical presentation and various surgical procedures adopted for management of parotid gland tumors .

METHODOLOGY

This study was carried out in a tertiary centre on 35 patients from June 2018 to August 2019 for a period of 14 months.

INCLUSION CRITERIA:

All consented patients who presented with a lump and FNAC report indicating parotid gland tumor were included in the study.

RESULT

In this study 35 patients were evaluated over a period of 14 months. Age of patients ranged from 10 to 68 years with maximum no of benign cases in the age group of 41-50 years and maximum number of malignant cases in the age group of 51-60 years. Table 1 shows the age distribution of 35 patients. Mean age of presentation is 42 years.

Table 1-Age distribution of salivary gland tumor

| Age group | Benign cases | Malignant cases |
|-----------|--------------|-----------------|
| 10-20 | 3 | 0 |
| 21-30 | 5 | 1 |
| 31-40 | 5 | 1 |
| 41-50 | 7 | 2 |
| 51-60 | 4 | 3 |
| 61-70 | 2 | 2 |

Out of 35 cases, 21 patients were males(60%) and 14 patients were females(40%) with male to female ratio being 3:2. Table 2 shows sex distribution of 35 patients with male predominance.

Table 2-Sex distribution

| Sex | No of cases | percentage |
|--------|-------------|------------|
| Male | 21 | 60% |
| Female | 14 | 40% |

All patients presented to department of ENT with swelling or lump in the parotid region. Other less often sign and symptoms include pain, skin fixity and cervical lymphadenopathy. Table 3 shows various sign and symptoms of patients at the time of presentation. None of them presented with complain of facial nerve palsy/paresis.

Table 3-Clinical presentation of parotid gland tumor

| Sign and symptoms | No of cases |
|--------------------------|-------------|
| Swelling | 35 |
| Pain | 6 |
| Facial palsy/paresis | 0 |
| Skin fixity | 2 |
| Cervical lymphadenopathy | 2 |
| Deep lobe involvement | 4 |

Table 4 shows the post operative histopathological diagnosis of parotid gland tumor. Total benign lesions came out to be 26 whereas total malignant lesions came out to be 9. Pleomorphic adenoma is the most common benign lesion followed by Warthin tumor. Mucoepidermoid carcinoma is most common in the malignant group.

Table 4- Histopathological diagnosis of parotid gland tumor

| BENIGN LESIONS | No of cases |
|---------------------------|-------------|
| Pleomorphic adenoma | 20 |
| Warthin tumor | 5 |
| Monomorphic adenoma | 1 |
| MALIGNANT LESIONS | |
| Mucoepidermoid carcinoma | 4 |
| Adenoid cystic carcinoma | 2 |
| Ca ex pleomorphic adenoma | 1 |
| Acinic cell carcinoma | 1 |
| Salivary duct ca | 1 |

Table 5 shows different operative procedures adopted for management of parotid gland tumor. Superficial parotidectomy is the most commonly performed surgical procedure followed by total parotidectomy. Mostly benign lesions are treated by superficial

parotidectomy. Mucoepidermoid carcinoma was mainly managed by total parotidectomy. Extended radical parotidectomy was performed in cases of adenoid cystic carcinoma, carcinoma ex pleomorphic adenoma, acinic cell carcinoma and salivary duct carcinoma. Selective neck dissection was performed in carcinoma ex pleomorphic adenoma. Adjuvant radiotherapy was given in cases of adenoid cystic carcinoma and salivary duct carcinoma.

Table 5- various surgical procedures adopted for management of parotid gland tumor.

| Surgical procedures | Number of cases |
|---|-----------------|
| superficial parotidectomy | 26 |
| Total parotidectomy | 3 |
| Radical parotidectomy | 2 |
| Extended radical parotidectomy (ERP) | 1 |
| ERP with selective neck dissection(SND), level 1 to 4 | 1 |
| ERP with SND and post operative radiotherapy | 2 |



Figure 1 shows superficial parotidectomy performed on a patient of pleomorphic adenoma. Course of facial nerve can be clearly seen in the picture.



Figure 2 is intraoperative pic of radical parotidectomy.

DISCUSSION

Parotid gland tumors tend to be morphologically complex and their multifaceted clinical presentation makes its preoperative diagnosis difficult and thus management. This study focused on parotid gland disorders which is the commonest site for diseases among the salivary glands. It is involved by variety of different benign and malignant conditions for which a wide range of surgical procedures are available⁵⁻⁸.

Patients usually present with a painless, slow growing mass. Although progression is slow but if left untreated, can cause significant morbidity. Involvement of the facial nerve at initial presentation almost always indicates malignancy. The likelihood of malignant transformation increases with the duration of the lesion⁹. Very rarely these tumors can metastasize.¹⁰

In our study, the mean age of parotid disorder was 42 years confirming to several published studies^{11,12}. In this study, there was male predominance (60%). Several published studies have reported similar more frequent involvement of male than female¹². Some published studies shows female predominance¹¹.

In this study, pleomorphic adenoma constituted the commonest pathology affecting the parotid gland (57%). Most of the published literature has reported pleomorphic adenoma to be the commonest pathology affecting the parotid gland^{11,12}.

In our study, incidence of malignant disease was 25.7%. Different studies have reported variable percentage of malignancies in their patient, Kera et al, have reported 24% malignancies in parotid gland disorder⁹. Takahoma et al. have reported even higher frequency of malignancies of about 40%¹⁰. In this series the commonest malignant tumors was mucoepidermoid carcinoma followed by adenoid cystic carcinoma. These findings confirm to what is reported by most of the published literature^{13,14}. Superficial parotidectomy was alone in all our benign parotid disease involving superficial lobe as advocated by many authors^{15,16}. Benign parotid disease involving deep lobe and malignant parotid disease were treated with total parotidectomy preserving facial nerve.

CONCLUSION

Relatively middle age individuals with male predominance are affected by parotid gland tumor that needs surgical management. Most of them have benign pathology for which superficial parotidectomy was performed. Patients with malignant lesions are treated with more

radical approach followed by post operative radiotherapy. Careful and meticulous dissection had significantly reduced the post operative complications.

REFERENCES

- 1) Ahmed J, Saqulain G. Validity and Accuracy of FNAC in the Diagnosis of Pleomorphic Adenoma of Salivary Gland: A Clinico-pathological Study. Journal of Islamabad Medical & Dental College. 2018 Jun 22;7(2):108-11
- 2) Ali NS, Akhtar S, Junaid M, Awan S, Aftab K. Diagnostic accuracy of fine needle aspiration cytology in parotid lesions. ISRN surgery. 2011 May 31;2011
- 3) Parotidectomy: overview, perioperative care, technique. Alexander Langerman, MD; <https://emedicine.medscape.com/artical/1891043overview>
- 4) Mervyn Correia, Francis Pantaliao Noronha, Pandarinath Audi; Superficial parotidectomy an excellent procedure in the management of benign parotid tumors. 2016 medical journal of Dr. D.Y. Patil University, vo-9, issue 5, 600-604.
- 5) Roh JL, Kim HS, Park CI. Randomized Clinical trial comparing partial parotidectomy versus superficial or total parotidectomy. Br J Surg 2007; 94: 1081-7.
- 6) Guntinus-Lichius O, Gabriel B, Klussmann JP. Risk of facial nerve palsy and severe Frey's Syndrome after conservation parotidectomy for benign disease: analysis of 610 patients. Acta Oto-Laryngologica 2006; 1104-9
- 7) Auclair PL, Ellis GL, Gnepp DR, Wenig BN, Janey CG. Salivary gland neoplasm: general considerations. In: Ellis GL, Auclair PL, Gnepp DR, editors. Surgical pathology of salivary glands. Philadelphia: WB Saunders; 1991. P. 136-64.
- 8) Ohtake S, Cheng j, Ida H, Suzuki M, Ohshiro K, Zhang W, et al. Precancerous foci in pleomorphic adenoma of the salivary gland: Recognition of focal carcinoma and atypical tumors cells by P₁₆ immunohistochemistry. J Oral Pathol Med 2002; 31: 590-7.
- 9) Novraei SA, Ferguson MS, Clarke PM, Samsison A, Sandhsc GS, Michaels L, et al. Metastasizing pleomorphic salivary adenoma. Arch Otolaryngol Head Neck Surg 2006; 132: 788-93.
- 10) Takahama Junior A, Almeida OP, Kowalski LP. Parotid neoplasms; analysis of 600 patients attended at a single institution. Braz J Otorhinolaryngol 2009; 75: 497-5013
- 11) Musomi MA, Sohail Z, Zafar A, Malik S. Morphological pattern of parotid gland tumors. J coll physicians Surg Pak 2008; 18: 274-7.
- 12) Dorairajan N. Salivary gland tumors; a 10 years retrospective study of survival in relation in size, histopathological examination of the tumors and nodal status. IntSurg 2004; 89: 140-9.
- 13) Li LJ, Li Y, Wen YM, Liu H, Zhao HW. Clinical analysis of salivary gland tumors case in west China in past 50 years. Oral oncol 2008; 44:187-92
- 14) Subhashroy K. Salivary gland tumors; a single institution experience in India. Br J Oral Maxillofac Surg 2008; 46:635-8.
- 15) Bardwil J.M. (1967): Tumors of the parotid gland: A.M.J. Surg 114: 498.
- 16) Dunn E.J, Kent T, Hines J. Cohn. I, Jr (1976): parotid Neoplasm's: A Report of 250 cases and review of the Literature. Ann Surg; 184: 500.