Management of Salivary Gland Tumours - Our Experience

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This prospective study was undertaken to evaluate our experience regarding incidence, pathology and management especially the surgical treatment of salivary gland tumours. Total No.21 patients were treated in three years period. Parotid gland was the commonest site followed by submandibular and minor salivary glands. Painless, slow growing lump was the usual presentation (76%) and clinical signs of malignancy was present in 24% of cases only. Male sex 4th and 5th decade of life was the main sufferers. Clinical diagnosis remains the main stay, although FNAC is diagnostic in 68% of cases. Overall incidence of benign tumours was 58% with pleomorphic adenoma the commonest pathology. Incidence of malignancy is quite high (42%) with mucoepidermoid and adenoid cystic carcinoma are the common malignant tumours. Surgical therapy offers the best chance of cure. Surgery for primary tumours is very rewarding in experience hands. Surgery for recurrent tumours is not only difficult but also carries higher complication rate. Hence it is recommended that salivary gland surgery should only be performed by experienced surgeon, with special interest in the salivary gland surgery.
Key words: Salivary gland tumours, Benign and Malignant, Surgery

Salivary gland tumours are uncommon, constitute 1.2% of all neoplastic diseases and nearly 5% of all head and neck tumours. They are the main reason for salivary gland surgery and among them parotid tumours are the commonest[1]. Majority of salivary tumours are benign and only about 20-25% are malignant. The commonest presentation is a painless, slow growing lump present for many years. The malignant tumours are also slow growing with delayed signs of malignancy like facial nerve palsy or skin ulceration or regional lymphadenopathy[2].

The importance of salivary gland tumours lies in the fact that they cause disfigurement of face, inherent risk of malignancy, in addition to this surgical therapy is technically demanding and its complications further add to embarrassment. This prospective study was undertaken to analyze our own experience regarding incidence, pathology and results of therapy of salivary gland tumours.

Materials and methods

This prospective study was started in North Surgical Ward of Mayo Hospital and later on continued in Surgical Unit-III of Jinnah Hospital, Lahore from September 1998 to September 2001. The basic diagnosis was clinical but FNAC was carried out in all cases and CT scan in selected cases only. All the fit patients were offered surgical therapy and postoperative radiation therapy was used where indicated. The postoperative morbidity was recorded carefully and on discharge were placed on regular follow up. Follow up ranged from few months to 3 years, with median follow up of 1.2 years.

Results

A total number of 21 cases of salivary gland tumours were treated during these three years. The age ranged from 24-85 years, with mean age of 41 years but majority of them was in 4th and 5th decade of life. The sex distribution is shown in Fig. No.1 which shows male predominance with male to female ratio of 1.6:1.

The usual presentation was slow growing painless mass and commonest site was parotid. The relative incidence of site of presentation is shown in Table.1.

Fig. 1. Sex distribution

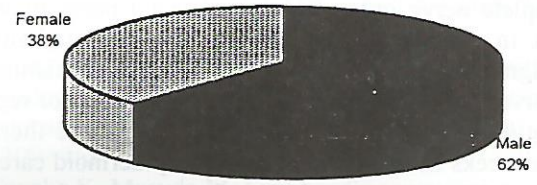

Table 1.Site of presentation

Site	n=	%age
Parotid	17	81
i. Primary	15	88
ii. Recurrent	02	12
Submandibular	03	14.3
i. Primary	02	66.6
ii. Recurrent	01	33.3
Minor salivary gland	01	4.7

The clinical indicators of malignancy like facial nerve palsy was present in 4(19%), skin involvement 3(14.3%) and lymphadenopathy in 3(14.3%) of cases. The diagnosis was based on clinical signs. FNAC was carried out in all cases, which proved helpful in 13(68.4%) cases and in 6(26.3%) cases, there was a mismatch in FNAC/ histopathological results. The detail of this is shown in Table 2. Open biopsy was performed in two cases, where skin was already involved. CT scan was used in malignant cases only.

Surgery was performed in all cases except two cases, one was inoperable and other patient refused the offer of treatment. The various surgical procedures performed are shown in Table 3. Postoperative radiotherapy was used in two cases, one superficial parotidectomy for pleomorphic adenoma, which on histology turned out to be adenoid cystic carcinoma of low grade type, so the remaining gland was irradiated. Other was mucoepidermoid carcinoma in which only palliative resection was performed.

Table 2. FNAC/Histopathology results

FNAC	Histopathology	No. of Pts.
A: Matched Results 13(68.4%)		
Pleomorphic adenoma	Pleomorphic adenoma	09
Mucoepidermoid Ca	Mucoepidermoid Ca	02
Squamous cell Ca	Squamous cell Ca	01
Adenocarcinoma	Adenocarcinoma	01
B: Mismatched Results 6(31.6%)		
Pleomorphic adenoma	Adenolymphoma	02
Pleomorphic adenoma	Adenoid cystic Ca	02
Pleomorphic adenoma	Mucoepidermoid Ca	01
Pleomorphic adenoma	Acinic cell tumour	01

The various complications encountered in this study were recorded. The results show that surgery for primary cases is complication free but surgery of recurrent tumours and malignant cases is technically difficult with more incidences of complications. Fortunately, there was no complete nerve injury but partial facial nerve injury was seen in two cases, one in recurrent case and other in malignant parotid tumour. One parotid fistula was observed following superficial parotidectomy for recurrent parotid tumour, which healed on conservative therapy in three weeks time. One case of mucoepidermoid carcinoma had local recurrence in six months time.

Table 3. Surgical procedure performed.

Operations	n=	%age
Superficial parotidectomy	11	57.9
Total parotidectomy with radical block dissection of neck	02	10.5
Total parotidectomy with suprahyoid dissection and rotation flap reconstruction	01	5.3
Palliative resection of parotid	01	5.3
Excision of submandibular gland	02	10.5
Excision of submandibular with suprahyoid neck dissection	01	5.3
Excision of minor salivary gland	01	5.3

Discussion

Salivary gland tumours are uncommon but interest in these tumours has increased mainly because of parotid gland, which is the commonest site of these tumours[3]. Inspite of its superficial location and disfiguring appearance, there is a long delay in presentation to surgeon. The main reason for this is being symptomless and slow growing nature of these tumours. Fortunately the majority of tumours are benign and only a small fraction is malignant[4]. The ominous signs indicative of malignancy and poor prognosis are facial nerve palsy, pain, rapid change in size, skin involvement and cervical lymphadenopathy[5].

The precise pathological classification of salivary gland tumours is imperative, as various types are distinct in their clinical behavior and response to therapy. The histological diagnosis prior to surgery is difficult, as incisional biopsies are contraindicated. Core-needle biopsy is notorious for tumour implantation and increased rate of complication. Perioperative frozen section is also not very reliable, furthermore this facility is not easily available in our set up[6]. Recently FNAC has been turned out to be a safe and inexpensive alternative. Pioneers of technique, speak very high about its specificity increased sensitivity but there is inevitably a risk of false negative results[7,8]. Low grade malignancies of adenoid cystic carcinoma, mucoepidermoid and acinic cell tumours are the lesions most frequently misdiagnosed[9,10]. The good clinico-cytological correlation is mandatory and any uncertainty in diagnosis must be conveyed to surgeons openly, with few suggested differential and leaving the final diagnosis open.

The consensus opinion is that minimal recommended surgical treatment for benign parotid tumour in superficial lobe is superficial parotidectomy and even total parotidectomy with nerve preservation for deep lobe or dumbbell tumours[11]. The adaptation of posterior root along the posterior belly of digastric muscle is most consistent site for identification of nerve, which prevent nerve injury and even neuroparaxia because of minimal handling of nerve[5].

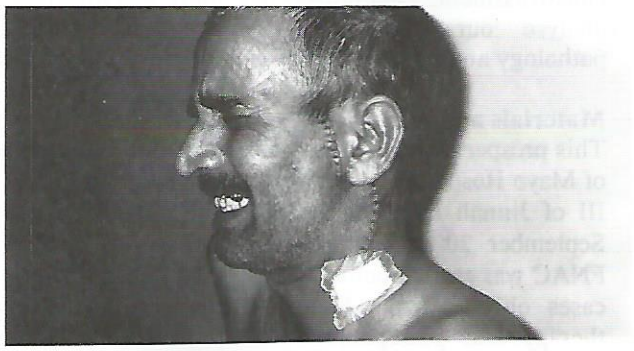

Fig. 2 Early postoperative period displaying nerve function.

There may be some difference of opinion regarding management of malignant tumours but most surgeons favor preservation of facial nerve if not paralyzed and where ever it is possible and then area is irradiated postoperatively. Supra-radical surgery is loosing grounds in the management of parotid malignancy, its place is being taken up by less mutilating surgery with postoperative radiotherapy[12]

Another area of controversy is management of neck nodes in cases of malignancy. Node positive patients are treated by appropriate neck dissection but prophylactic neck dissection is only reserved for high grade tumours of squamous cell carcinoma, mucoepidermoid and adenocarcinomas[13]. Perhaps the greatest advance in the management of salivary gland tumours is advent of various reconstructive techniques, which give the surgeons greater liberty during excision of tumours[14]. Fig.3,4

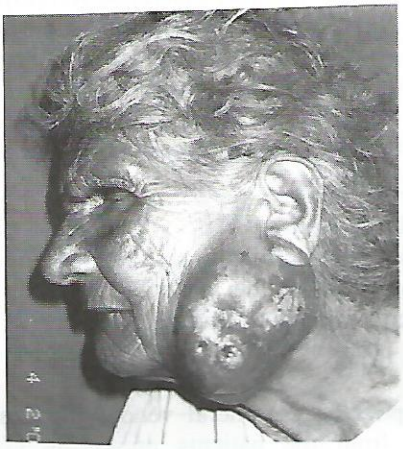

Fig. 3 Parotid Carcinoma with extensive skin involvement.

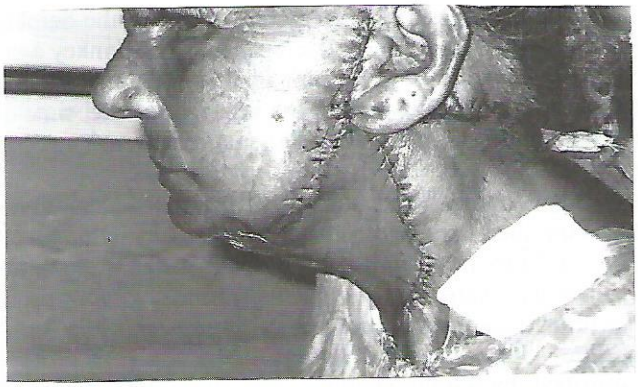

Fig.4. Reconstruction by local flap.

Chemotherapy has not been able to establish its place in the management of salivary gland tumours but radiotherapy had its definitive role in local control of disease especially in cases of margin positive, nerve preservation and high grade tumours[15].

Conclusion

1. Clinical diagnosis is the mainstay for diagnosis. FNAC provides useful information for management of salivary gland tumours but it has its own limitations in differentiation between pleomorphic adenoma and low grade tumours of adenoid cystic, mucoepidermoid and acinic cell tumour.
2. Surgery remains the gold standard in management of salivary gland tumours and should only be performed by an experienced surgeon with special interest in salivary gland surgery.
3. Recurrent operation is tedious and carries a higher risk of complications.

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