PAROTOID TUMOURS: A STUDY OF 65 CASES

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ABSTRACT

Sixty five patients who had undergone surgery for parotid tumours over a period of nine years were studied retrospectively. There were 45 males and 20 females. There were 49 benign and 16 malignant tumours. Age ranged 35-69 years; mean 47 years. Pain (6%) and facial palsy (3%) were unusual features. Size of tumour at presentation varied from 1.5 to 12 cm. Superficial parotidectomy was the commonest operation performed and Total/Radical/Extended parotidectomy was done in selected cases. Postoperative radiotherapy was used in six cases. No recurrences were noted following surgery for benign tumours. However a local recurrence rate of 37% was found for malignancies (6/16 cases). This paper aims to review the experience of managing these tumours in the setting of service hospitals.

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KEY WORDS: Carcinoma parotid; Parotid tumour; Pleomorphic adenoma.

Introduction

Tumours arising from parotid gland account for about 50% of all salivary neoplasms/cysts but are quite unusual tumours overall [1-3]. In adults benign tumours of the parotid predominate over malignant tumours 3:1 or 4:1. Pleomorphic adenoma is the commonest type with an incidence that varies from 60.6-76.2% [1-3]. Even though clinical diagnosis is usually quite reliable there are several pitfalls. With the advent of CT and MRI scan diagnostic ability has improved [4]. Most tumours are benign and are commonly located in the superficial lobe. Pain, facial nerve palsy and involvement of skin or muscle are unusual presenting features and usually indicate advanced malignancy. Superficial parotidectomy (SP) is the most common surgical procedure performed for diagnosis and therapy. Total conservative parotidectomy (TCP) with preservation of facial nerve is advisable for tumours involving deep lobe. Division of part/whole of facial nerve may be indicated as part of Total parotidectomy (TP) in malignant tumours, and neck dissection should be performed for metastatic cervical lymph nodes in addition to parotidectomy-the operation of radical parotidectomy (RP). Extended parotidectomy (EP) refers to excision of skin, muscle or bone as part of parotidectomy.

Material and Methods

The records of 65 cases of parotid tumours that were operated upon between January 1988 and December 1996 were reviewed retrospectively. Clinical features, radiological findings (CT scan), pathology reports, operative findings especially with regard to facial nerve involvement were all recorded on case study performa

and analysed. Facial nerve function and Frey's syndrome were assessed clinically. Minimal transient weakness lasting less than a month was disregarded. Facial nerve function was assessed at one month and then at 3 monthly intervals for signs of recovery. Paresis was defined as any objective facial weakness whereas paralysis was defined as complete lack of discernible facial movement. Report of FNAC were correlated with final histology. Special attention was paid to detect the incidence and duration of postoperative facial palsy and other complications. Patients were followed up 3 monthly for 2 years and 6 monthly for next 3 years for local recurrence/cervical nodal or other metastases.

Results

There were 45 males and 20 females in this study. Whereas 35 tumours arose in the right parotid 30 were left sided in origin. Of the 65 tumours seen 49 were benign (76%) and 16 malignant (24%). Histological types of parotid tumours seen are shown in Table 1. Age of patients ranged from 35-69 years with a mean of 47 years. The commonest malignant tumour was mucoepidermoid carcinoma. The lesions which appeared to be well circumscribed but lacked true encapsulation were considered low grade, whereas lesions showing significant capacity for local invasiveness or an infiltrative margin were considered intermediate-high grade. There was one case of metastatic epidermoid carcinoma in parotid lymph node (from a primary in the eyelid) which required RP as part of treatment. Most common clinical presentation was in the form of a 'lump' in the parotid region which includes the tail, body and accessory tissue lying along the Stensen's duct anteriorly (Table 2). One case presented with a lump inside the throat due to involvement of the deep lobe with parapharyngeal extension. 51 tumours were located in the superficial lobe (42 benign, 9 malignant), 5 in the deep lobe and 9 involved both lobes. While most were confined to the parotid, one case showed infiltration of overlying skin alone whereas 3 had infiltration/ulceration of skin alongwith invasion into muscles. Pain was present in only 4 cases (6%) and facial palsy in 2 cases (3%). Four patients came with clinically enlarged cervical lymph nodes in addition to the parotid mass. Duration of symptoms ranged from 1 to 12 years. FNAC was carried out in 36 cases and the report correlated with final

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TABLE 1
Histological types of parotid tumours (65)

Histology	No.	%
Benign	49	76
Pleomorphic adenoma	45	
Warthin's	3	
Oncocytoma	1	
Malignant	16	24
Mucoepidermoid	8	
Low grade	3	
Medium-high grade	5	
Malignant mixed	1	
Acinic cell	3	
Adenocarcinoma	1	
Metastatic epidermoid	1	

TABLE 2
Clinical features in parotid tumours (65)

Findings	No.	%
Presentation		
Tail	30	47
Body	21	32
Body and tail	12	18
Palate	1	1.5
Accessory	1	1.5
Location		
Superficial	51	
Deep	5	
Both	9	
Extent		
Freely mobile	51	
Decreased mobility	10	
Skin infiltration/ulceration	1	
Skin and muscle infiltration	3	

histology report. Correct diagnosis was given in 13 cases in 16 cases the FNAC was inconclusive and in 7 the final diagnosis was different (sensitivity 55%, specificity 36%). The different surgical operations performed are showed in Table 3. Following nerve saving operations i.e. SP, TCP facial nerve paresis/paralysis was noted in 29 out of 58 cases (50%). However in the majority facial nerve function recovered fully within 1 years, leaving 2 cases with permanent disability (4%). Out of seven cases in which either the trunk or some branches of facial nerve were sectioned at operation one case underwent microneural repair using Sural nerve cable grafts to 3 branches. Radiotherapy was given postoperatively to 6 selected cases. In this series followup results are available for 52

TABLE 3
Type of surgery done in parotid tumours (65)

Superficial parotidectomy	
Benign	42
Malignant	9
Total conservative parotidectomy	7
Total parotidectomy (nerve section)	6
Radical neck dissection	4
Facial nerve graft	1
Extended parotidectomy	4

patients (13 LFU) for periods ranging from 6 months to 6 years. Among the benign tumours no local recurrence (LR) has seen following SP until 6 years of maximum follow-up. Among the malignancies out of nine cases that had SP, 3 developed LR as well as distant metastases. Following TP/EP 4 cases out of 7 remained free of local disease for upto 18 months, whereas 3 recurred within 4 months.

Discussion

Most tumours of parotid gland are benign and arise in the superficial lobe, which contains over 85% of all gland parenchyma [1]. A tumour arising from the deep lobe may present primarily as a swelling in the oropharynx and occasionally a tumour may present far forward in the face due to origin from the accessory tissue lying around Stensen's duct. Symptoms of facial nerve weakness or rapid growth occur rarely in benign tumours even when large in size and often indicate malignancy. In most reported series of primary parotid tumors, the incidence of malignancy is 17-30% [2,4]. If preoperative diagnosis of malignancy is established, appropriate surgical therapy may be carried out. FNAC has yielded a sensitivity of 55% and specificity of 36% in our series. This is likely to improve with increasing experience. Whereas higher rates of sensitivity and specificity are reported from other institution [5] yet enthusiasm for FNAC in parotid tumours is limited, as treatment is altered in relatively few cases [6]. However FNAC is of value in enlarged lymph nodes. The chances of involvement of lymph nodes is greatest in epidermoid carcinoma, high grade mucoepidermoid and adenocarcinoma of parotid [6]. For pleomorphic adenoma it is known that local excision/enucleation are accompanied by 20-45% rate of local recurrence (LR) [1,3,5] and that this is due to seeding rather than multicentricity [1,7,8]. Some authors have advocated TCP to reduce the incidence of LR while maintaining acceptable morbidity patterns [8,9]. However for most cases SP remains an adequate procedure for small tumours confined to superficial lobe [1,3,5,10]. LR rates of < 1% are reported after SP [10,11]. Choice of surgical procedure depends upon the extent of primary tumour and is not usually influenced by histology. However a diagnosis of malignancy leads to a greater readiness to sacrifice the facial nerve or a part thereof in order to get adequate tumour free margins [6,12]. The functional and cosmetic disability following facial nerve section is severe enough to warrant attempts at facial nerve grafting. This was done in one case by using sural nerve cable grafts microscopically and resulted in partial reanimation of face at 6 months. Results of facial nerve reconstruction have been reported [13]. Complications of parotid surgery are mainly related to facial nerve

injury. Facial nerve dissection (FND) refers to identification of the nerve either at the trunk and traced peripherally or vice versa in removing the gland. Patey suggested that the identification of the nerve in front of rather than at the stylomastoid foramen avoided damage to the stylomastoid artery and could reduce the incidence of ischaemia related nerve dysfunction [14]. While the posterior approach is preferred by most, yet some authors advocate the peripheral approach with preliminary dissection of a peripheral branch and then dissection proximally to reduce the incidence of stylomastoid artery damage [15]. After FND the incidence of temporary i.e. months paralysis is about 36% and of permanent paralysis is 2% [9,11]. In our series, the incidence after FND was 50% and 4% respectively. Minimal weakness usually of the mandibular branch is more frequently detectable [1,9]. Frey's syndrome has been reported to occur in as many as 23% to 30% cases in the literature [1,16] but has not occurred in our experience. Excision of parotid for malignant tumours follows standard oncological principles aiming to achieve tumour free margins of resection. The benefits of carrying out extended resections of parotid to include involved areas of skin, muscle, nerve or bone have been well-documented [12] and reduce the incidence of LR. It has been recorded that LR has a direct influence on distant metastases and hence prognosis [5]. In our series the number of extended resections carried out is too small to permit us to draw any meaningful conclusions in this regard. Radical parotidectomy including neck dissections are recommended for carcinoma involving cervical nodes. Prophylactic neck dissection/radiotherapy (RT) does not improve survival figure and is not recommended except in certain cases of epidermoid or high-grade mucoepidermoid carcinoma [6, 17]. Large tumour size, extraparotid invasion, high grade lesion and presence of facial nerve palsy are poor prognostic factors [18]. Postoperative RT should be used whenever residual tumour is suspected or in tumours approaching the skull base especially if perineural spread is a possibility [5,12,19]. Other indications for postoperative RT include high-grade tumour, extraparotid invasion and involvement of cervical nodes. In our series RT was given in a small number of patients (6) hence no benefits are demonstrable. Among our malignant cases (16) local failure occurred in 6 (37%) and distant metastases in 3 (18%). These cases were mainly high-grade, locally advanced at presentation. An aggressive multimodal (Surgery and RT) treatment protocol must be followed in such cases.

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