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Enucleated parotid tumours

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Five pleomorphic, one monomorphic adenoma and one acinic cell lower pole parotid tumours were thought to be lymph nodes and enucleated. Wide excision of the operative site within 2 months revealed microscopic recurrence in three cases. Three carcinomas were enucleated and two had recurred rapidly. It is suggested that such cases of inadvertent enucleation should undergo wide resection of the operative site with nerve dissection.

Keywords: Frequent recurrence, early reoperation, pleomorphic adenoma

Occasionally a tumour in the lower pole of the parotid gland is mistaken for an enlarged lymph node and is excised or enucleated through a small incision (*Figure 1*). This is more likely to occur in younger patients in whom parotid neoplasms are particularly rare. Occasionally the histology reveals a carcinoma and most surgeons would then suggest further surgery or radiotherapy. More commonly the neoplasm is a pleomorphic adenoma, very occasionally a low grade muco-epidermoid or acinic cell tumour. The question of further surgery with concomitant risk to the facial nerve, or radiotherapy with its own complications particularly in the young, must be weighed against the undoubted risk of recurrence. Benign neoplasms such as adenolymphomas need no further treatment.

A policy of immediate further surgical treatment of enucleated pleomorphic adenomas, acinic cell tumours and low grade muco-epidermoid tumours[1] was started 13 years ago.

Patients and methods

Ten patients who, inadvertently, had had inadequate surgery were referred in the last 13 years. In this personal series a routine wide excision of the site of the previous surgery was performed after dissection of the facial nerve[2]. The scar of the previous surgery was widely excised in continuity with the deeper tissues. As might be expected the recurrence rate in the three carcinomas was high (*Table 1*). The high grade muco-epidermoid tumour developed a probable recurrence within 1 month of the original enucleation and was treated elsewhere with a full course of radiotherapy. During treatment the probable recurrence appeared to increase in size. A radical parotidectomy and nerve graft, together with wide excision of the overlying skin followed biopsy and frozen section confirming the recurrence.

The patient with a squamous cell carcinoma underwent enucleation of the tumour followed by a radium implant and developed a haematoma which failed to resolve. Malignant cells were found in the saliva from the parotid and a radical parotidectomy and nerve graft was carried out (*Table 1*).

Of the seven patients with benign tumours or a low grade carcinoma, who all underwent reoperation within 2 months of their previous surgery, no fewer than three had already developed microscopic recurrent tumour (*Table 1*). The recurrences had developed in the scar tissue in the parotid gland at the site of the previous surgery and were multicentric in the pleomorphic adenomas (*Figures 2* and *3*) and solitary in the patient with the acinic cell tumour (*Figure 4*).

One patient was lost to follow-up and there were no cases of further recurrence of tumour in the 13-year period, with the exception of the patient with the adenocarcinoma. He developed a recurrent tumour in the buccal fat on the same side as his original tumour 4 years later. It was widely excised and he is currently undergoing radiotherapy. Among the seven patients with pleomorphic and acinic cell tumours two cases developed mild Frey's syndrome and there was a slight but obvious weakness of the lower lip in one patient. This has remained unchanged for 9 years.

Of the three patients with carcinoma there was no recovery of facial nerve function in two patients. The boy with a muco-epidermoid carcinoma underwent a near-total parotidectomy and block dissection but the main trunk and upper division of the facial nerve were spared and the lower main division grafted. He now has weakness only of the lower lip.

Discussion

Slow-growing parotid tumours frequently expand into the lower pole of the gland. Occasionally they extend below the lower pole of the parotid and may be considered on clinical examination to be unrelated to the parotid (*Figure 1*) and to be enlarged lymph nodes. As parotid tumours are rare in children and enlarged nodes not uncommon, it is not surprising that half this series is aged under 25 and nearly a third 15 years or less.

On the rare occasions when inadequate surgery is performed inadvertently for malignant parotid tumours, most surgeons would agree that further surgery is indicated. In the three cases described here two had already recurred, one within 2 months, and it would seem that further surgery is justified.

The dilemma of whether of not to advise further surgery for inadvertently enucleated pleomorphic adenomas and the rare acinic cell and muco-epidermoid tumours has been difficult to resolve. In personal discussion some colleagues have taken the view that the risk of recurrence is slight in comparison to the risk of facial nerve damage and that the situation could be salvaged by further surgery if, after careful follow-up, a recurrence occurs.

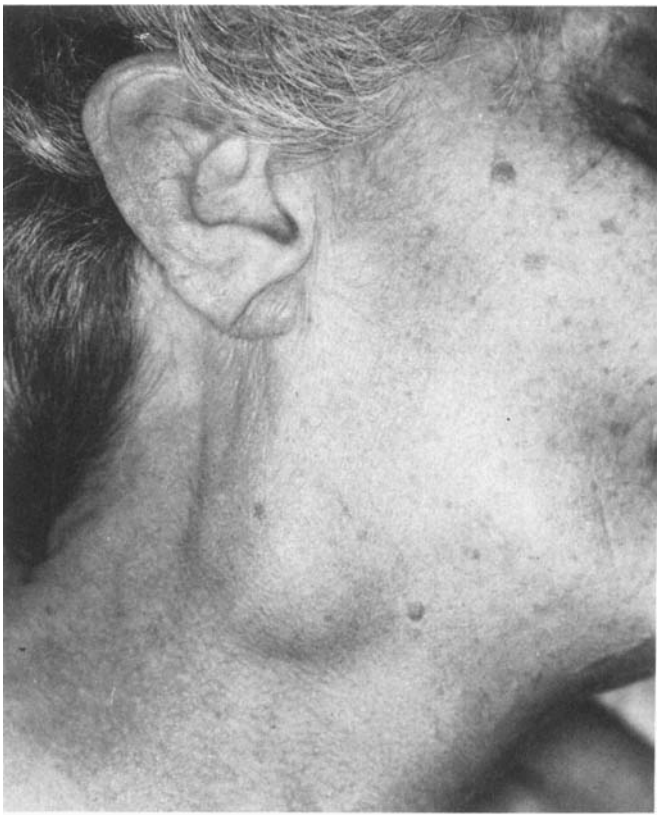

Figure 1 *Adenolymphoma treated by wide excision*

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Table 1 *Enucleated parotid neoplasms with wide excision of operation site*

Neoplasm	Age and sex	Interval between operations	Findings	Follow-up	Complications
Carcinomas					
1. Adenocarcinoma	54 M	1 month	No recurrent tumour	4 years: recent recurrence. Excised and radiotherapy	Complete facial palsy
2. Muco-epidermoid carcinoma	13 M	2 months	Recurrent tumour	4 years: no recurrence	Weakness of lower lip
3. Squamous cell carcinoma	68 M	11 months	Recurrent tumour	7 years: died, no recurrence	Complete facial palsy
Pleomorphic and monomorphic adenomas and acinic cell tumour					
4. Pleomorphic adenoma	15 M	1 month	No recurrent tumour	13 years: no recurrence	Frey's syndrome
5. Pleomorphic adenoma	19 F	2 months	No recurrent tumour	Lost to follow up	—
6. Pleomorphic adenoma	36 M	5 weeks	No recurrent tumour	3 years: no recurrence	—
7. Monomorphic adenoma	41 M	2 weeks	No recurrent tumour	5 years: no recurrence	—
8. Pleomorphic adenoma	15 F	1 month	Microscopic recurrent tumour	9 years: no recurrence	Slight weakness of lower lip
9. Pleomorphic adenoma	23 F	1 month	Microscopic recurrent tumour	6 years: no recurrence	Frey's syndrome
10. Acinic cell tumour	42 M	1 month	Microscopic recurrent tumour	6 years: no recurrence	—

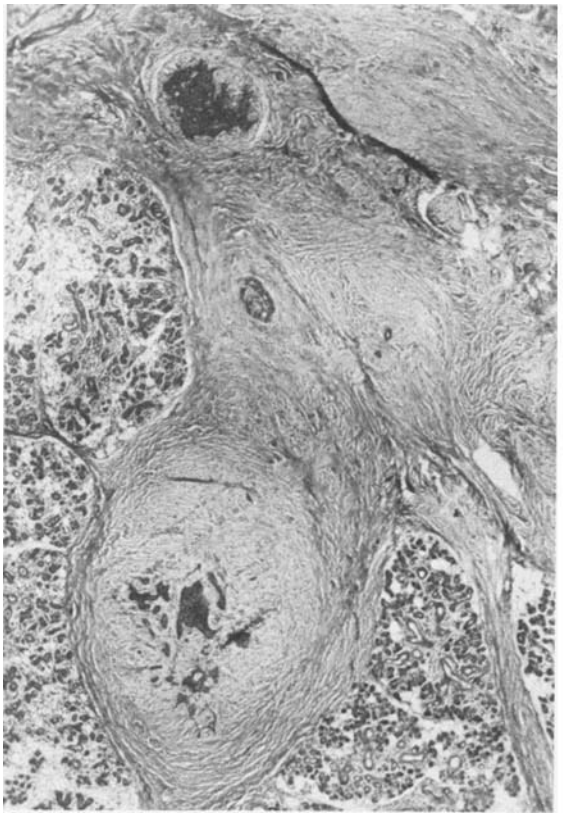

Figure 2 *Case 8: haematoxylin and eosin stained preparation showing multifocal recurrent pleomorphic adenoma (magnification ×38)*

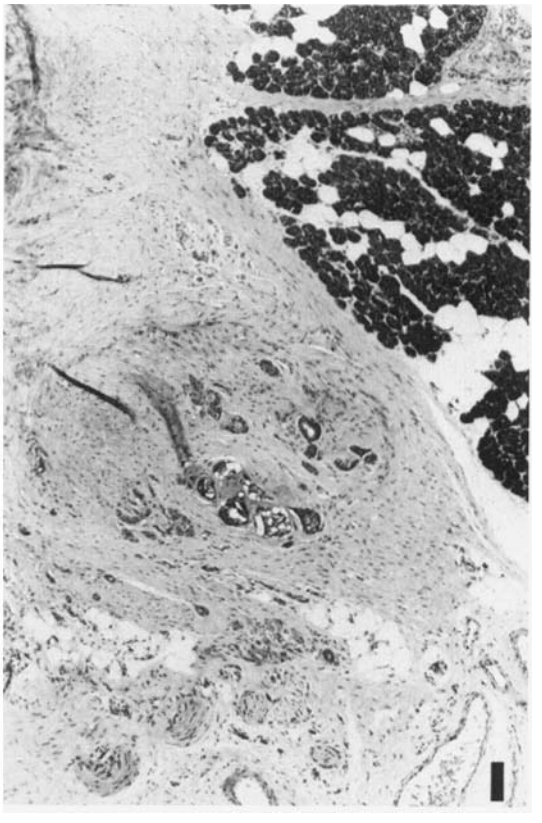

Figure 3 *Case 9: haematoxylin and eosin stained preparation showing multifocal recurrent pleomorphic adenoma (graticule ≡ 100 μm)*

Others have attempted to minimize the risk of recurrence by advising postoperative radiotherapy.

Before 1950 all pleomorphic adenomas were enucleated. Often this meant a small incision over the tumour and aspiration of the contents. It is common knowledge that the recurrence rate after such a procedure was high. As long ago as 1941, Bailey[3] had recommended that the capsule must be excised as well because of the high recurrence rate after aspiration alone. After short follow-up periods McEvedy[4] reported in 1934 a 20 per cent recurrence rate after 'enucleation'. Two years later McFarland[5] reported a 21·5 per cent recurrence rate in 278 similar cases. Patey[6] discussed the high recurrence rate after enucleation and Smiddy[7] reported no fewer than 16 recurrence in 19 similar cases. Wyatt and Henry[8] and Maimaris and Ball[9] in retrospective surveys recently reported 10 per cent and 12 per cent recurrence rates, respectively.

However, if the enucleation is a meticulous extra-capsular dissection the recurrence rate is the same as wide excision with dissection of the facial nerve as described in one large series[10]. It is probable that enucleation of a suspected lymph node is not performed with such meticulous extra-capsular dissection.

If a policy of no further surgery and follow-up is adopted, certain other factors should be taken into consideration if recurrence does occur. Recurrences are frequently multifocal and may involve branches of the facial nerve necessitating sacrifice of all or part of the nerve if further recurrence is to be avoided. Further recurrence after surgery for recurrence is not uncommon with increased risk to the facial nerve. Malignant

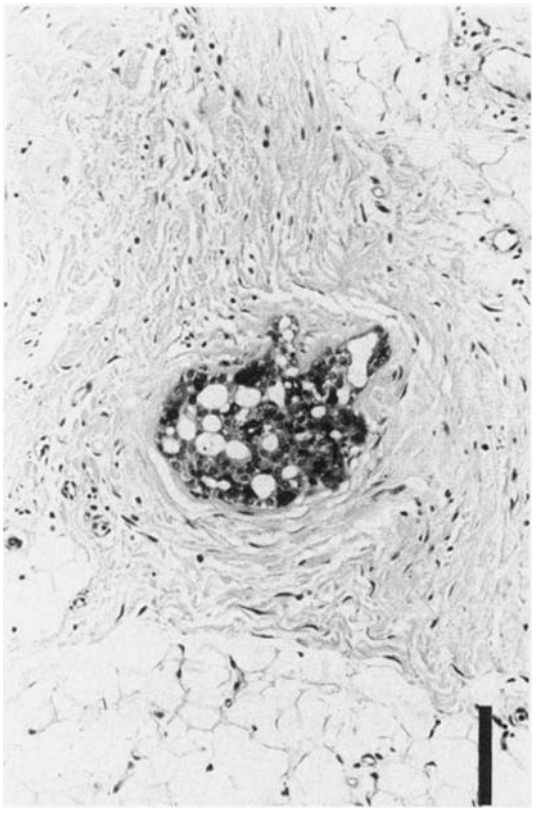

Figure 4 *Case 10: haematoxylin and eosin stained preparation showing recurrent acinic cell tumour (graticule ≡ 100 μm)*

change in pleomorphic adenomas occurs after usually long periods of growth but sometimes more quickly. Slow-growing acinic cell and muco-epidermoid tumours may metastasize. All these tumours grow slowly and late recurrence is common. Patients frequently fail to attend follow-up appointments after several years. Once they have escaped from supervision patients fail to notice the presence of a recurrence sometimes for many years, particularly if the recurrence is not superficial[11]. Occasionally the first symptom of recurrence is pain or facial palsy, which indicates the transformation of the occult recurrence into a malignant pleomorphic adenoma or infiltration by an acinic cell or muco-epidermoid tumour.

Prophylactic radiotherapy is of dubious value in salvaging inadequate surgery for these tumours. Watkin and Hobsley[12] have recently suggested that radiotherapy after local excision did not affect the interval between operation and recurrence. More important is the long-term effect of radiotherapy and the possibility of inducing further parotid neoplasia in the future[13]. Children are particularly vulnerable in this respect[14,15]. It is probable that misdiagnosis of parotid tumours is more common in children and irradiation as a measure of prophylaxis should not be considered. Cranial nerve damage occasionally develops as a complication of radiotherapy[16].

In this small collection of enucleated pleomorphic and monomorphic adenomas and one acinic cell tumour, no fewer than three out of seven had recurred microscopically within 1 month of the original surgery. It is suggested that the best management of these problems in the future should be to treat the operation site and the operation scar as an existing neoplasm and to carry out a wide excision after dissection of the facial nerve.

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