



Clinically benign parotid tumours: local dissection as an alternative to superficial parotidectomy in selected cases

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In a personal series of 162 tumours, 101 were pleomorphic adenomas 28 of which were removed by elective local extra capsular dissection and 73 by a conventional nerve dissection. There were no recurrences in either group after a mean follow-up 10.3 years, range 3–21 years for local dissection and 8.3 years, range 3–22 years for nerve dissection. Frey's syndrome did not occur after local dissection but was present in 25% of patients after a nerve dissection.

Of the 162 parotid lumps, 17 proved to be a carcinoma but only one was deemed suitable for a local removal, a low grade muco epidermoid carcinoma of the accessory lobe and no recurrence has occurred after 8 years.

In benign disease, local dissection gives similar results to conventional nerve dissection with less morbidity and confirms that tumour recurrence cannot be ascribed to any properties of the tumour but lies in the hands of the surgeon and depends on the care with which the tumour is removed.

Key words: Parotid tumours – Pleomorphic adenoma – Local removal – Frey's syndrome – Recurrence rate

The majority of clinically benign tumours of the parotid are pleomorphic adenomas. It is known that removal by enucleation is followed by a high local recurrence rate. Initially, this was attributed to a possible multifocal nature or a low grade malignant potential but, later, pathologists described small

projections of tumour through the capsule.¹ It was assumed that local removal may leave these behind, resulting in recurrence many years later. Superficial parotidectomy was proposed to reduce this risk so as to leave a covering of normal parotid and to protect the facial nerve. This method is widely used and, despite

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the fact that 50% of cases have branches of the facial nerve in contact with the tumour capsule, excellent long-term results have been reported.²⁻⁴

As capsular exposure cannot be avoided in every case and is not associated with any increased recurrence rate, some surgeons have employed a local extra capsular dissection technique for removing superficial mobile tumours. A recent publication of a large series treated by local dissection has shown this method to be safe with a small, but significant, reduction in morbidity.⁵

This study reports a personal series of clinically benign parotid tumours treated selectively by either partial superficial parotidectomy with nerve dissection or an elective local extra capsular dissection.

Patients and Methods

In a 22-year-period (1972–1994), 162 apparently benign parotid lumps were removed. The period of follow-up extended from 3 years to 23 years with only 4 patients lost to follow-up by the end of 1997.

Pre-operative FNA cytology or other investigations were not used. Superficial and mobile tumours were considered for removal by a careful local dissection technique without first identifying the facial nerve. Six anterior tumours of the accessory lobe were approached directly; in the remainder, a standard exposure was used often with mobilization of the posterior margin from the sternomastoid to confirm mobility before embarking on a local removal.

Local dissection is commenced by cutting through the thin layer of parotid superficial to the tumour. Lifting this up with forceps helps to identify the tumour surface. A loose areolar plane is then identified between the tumour surface and the normal parotid. This is slowly developed by scissor dissection under direct vision. It is aided by applying traction to the adjacent normal parotid held up with forceps and counter traction on the tumour which is covered with a gauze swab. The surface of a pleomorphic adenoma is often irregular but projections can be avoided if the dissection is done in a bloodless field aided by modest hypotension and unipolar diathermy on a low cutting current. Branches of the facial nerve if close are easily identified and preserved on the deep aspect of the dissection.

If the boundary between the tumour and the parotid becomes indistinct at any point or the tumour extends more deeply than anticipated the operation is converted to a traditional nerve dissection procedure.

For deeper or less mobile tumours, the facial nerve

Table 1 Removal method of 162 clinically benign parotid tumours

	Local dissection	Nerve dissection
Pleomorphic adenoma	28	73
Adenolymphoma	4	21
Muco epidermoid carcinoma	1	2
Acinic cell carcinoma	0	3
Adenocarcinoma	0	4
Squamous cell carcinoma	0	2
Anaplastic carcinoma	0	3
Malignant mixed carcinoma	0	2
Lymphoma	1	4
Simple cyst	1	3
Lympho epithelial lesion	5	2
Reactive lymph node	2	1
Total	42	120

trunk is identified and its relevant branches traced through the parotid to ensure complete removal of the lump, where possible with a covering of parotid. Great care is taken to avoid rupture in tumours that were in direct contact with the facial nerve. Deep lobe tumours were of necessity removed by the local dissection technique after displacing the overlying facial nerve and branches.

Results

A total of 42 tumours were removed by elective local extra capsular dissection and 120 by nerve dissection (Table 1). In 17 cases, the apparent benign tumour proved to be a low grade carcinoma. All but one of these were not freely mobile or superficial within the parotid and so were not selected for extra capsular dissection. A small low grade epidermoid carcinoma in the accessory lobe was removed by local dissection. Removal was histologically complete and no recurrence has occurred up to 8 years.

Of the 162 tumours, 101 were pleomorphic adenomas. Local dissection was employed in 28 cases and a partial or complete nerve dissection in the remaining 73 cases. No overt tumour ruptures occurred, but a minute split in the capsule was recorded in two cases without spillage of cells. Postoperative radiotherapy was not used.

There have been no recurrences to date with a mean follow up of 10.3 years for the local dissection group and 8.3 years for those having a nerve dissection. There were no cases of permanent facial weakness in either group but Frey's syndrome (incidence 25%) only occurred in those having a nerve dissection (Table 2).

Table 2 Method of removal and results of 101 pleomorphic adenomas

	Local dissection	Nerve dissection
Number	28	73
Mean age	43 years	46 years
Mean follow-up	10.3 years	8.3 years
Range of follow-up	3–21 years	3–22 years
Rupture of capsule	0	0
Split to capsule	0	2
Transient facial weakness	2 (7%)	6 (8%)
Permanent facial weakness	0	0
Frey's syndrome	0	18 (25%)
Recurrence	0	0

Discussion

It is commonly believed that local removal of a pleomorphic adenoma is followed by a significant recurrence rate, supposedly because microscopic projections of tumour through its capsule may be left *in situ*. Thus, for many years, superficial parotidectomy has been the standard operation.

This series shows that local dissection is a safe and effective method of removing selected clinically benign parotid tumours. It avoids a nerve dissection with the associated cosmetic deformity and high incidence of Frey's syndrome. Local dissection may be simple in concept, but it is just as demanding a technique as nerve dissection. It must not be confused with the term enucleation which is a rapid shelling out of the lump with a limited exposure and a high risk of tumour rupture. Local dissection is for the experienced parotid surgeon and not to be used as an excuse to avoid a nerve dissection.⁶

It is well known that malignant tumours may appear clinically benign and the fear has been raised that treatment by local dissection may compromise cure. It is interesting that the majority of malignant tumours had clinical features at surgery that rendered them unsuitable for local dissection with only one exception. In such cases, there is still the option of

subsequently performing a superficial parotidectomy with or without postoperative radiotherapy.

In the large series reported from the Christie Hospital, where local dissection was used to remove the majority of pleomorphic adenomas, recurrence rate was similar to nerve dissection (2% *versus* 2%) at a median follow-up of 14 years.⁵ This present series has produced equally good results though only 26% of clinically benign tumours were selected for local excision. No recurrence has been detected with either method of removal.

The guiding principle in operating on a clinically benign parotid tumour is to achieve complete removal without breach of its surface and to avoid damaging the facial nerve. Many can be removed by local dissection but selection requires judgement that can only be gained by experience.

Recurrence of a pleomorphic adenoma cannot be explained by characteristics of the tumour itself but can be laid at the door of the surgeon and his technique.

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