

## Seeding of a parotid pleomorphic adenoma

D. J. COMMINS, F.R.C.S.\*, D. ROBERTS, F.R.C.S.‡, C. FISHER, M.A., M.D., F.R.C.PATH.†, N. M. BREACH, F.R.C.S., F.D.S., R.C.S.\*

### Abstract

Recurrent pleomorphic adenoma of the parotid usually occurs in the distribution of the primary procedure. There are numerous reports of widespread local recurrence and a few reported cases of distant metastases. Extensive seeding throughout the entire ipsilateral neck is rare. Treatment involves a combination of radical surgery and radiotherapy. The potential for malignant transformation demands close follow-up of younger patients particularly.

**Key words:** Salivary gland neoplasms; Pleomorphic adenoma, complications; Recurrence

### Introduction

Tumour recurrence following excision of a parotid pleomorphic adenoma remains a surgical challenge to this day. The intimate association of the recurrent tumour

to the facial nerve places the nerve at risk and presents the clinician with a dilemma. The benign nature of the tumour and the disfiguring consequences of a paresis are two reasons why conservation of the nerve is to be recom-



FIG. 1

Multiple discrete nodules are seen in the operative field extending to the supraclavicular fossa.

From the Departments of Head and Neck Surgery\* and Histopathology†, Royal Marsden Hospital, Fulham Road, London, and the Department of Otolaryngology‡, Frimley Park Hospital, Surrey.

Accepted for publication: 29 January 1995.

mended if clinically possible. In the young patient however the possibility of malignant transformation must be borne in mind.

A case report of a recurrent pleomorphic adenoma of the parotid with an unusual distribution is presented and the management of the patient is discussed.

### Case report

A 41-year-old male Caucasian was referred to the Head and Neck Unit at the Royal Marsden Hospital with a recurrent pleomorphic adenoma. Seventeen years previously, when aged 23 years, the patient had undergone an enucleation of a left parotid mass. He presented with swellings at both the site of the primary lesion and in the ipsilateral neck. The swellings had progressively enlarged and increased in number over the preceding year. One of the swellings had been excised and reported as a pleomorphic adenoma.

Swellings were noted above and below the enucleation scar, with multiple subcutaneous nodules extending into the supraclavicular fossa. There was no facial weakness or clinical evidence of deep lobe involvement. Fine needle aspirate cytology showed features consistent with pleomorphic adenoma with no evidence of malignancy. A CT scan revealed the presence of a bulky tumour in the parotid bed and multiple discrete masses in the neck.

At operation widespread tumour recurrence was noted. There were multiple discrete nodules both in the parotid and cervical region, the latter extending to the supracla-

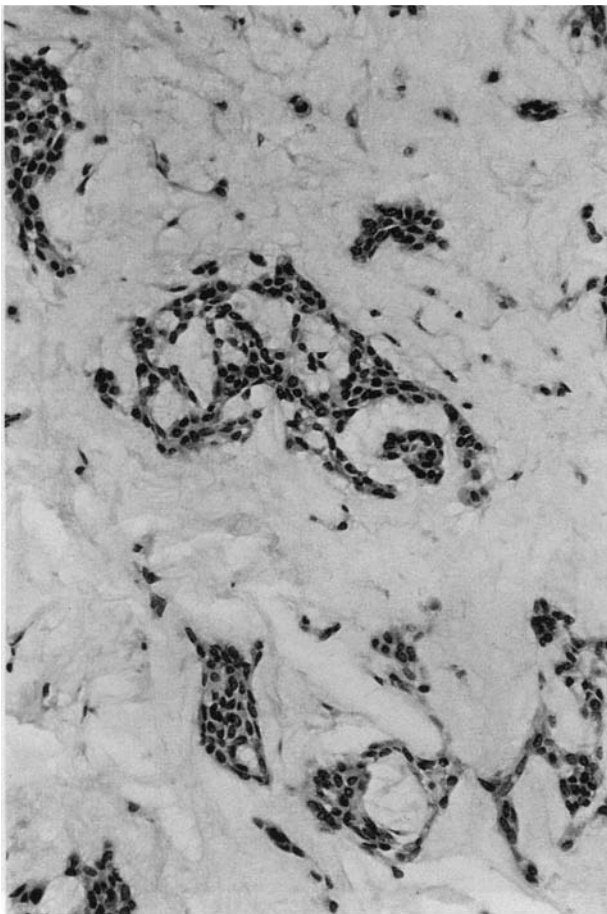


FIG. 2

Pleomorphic adenoma showing clusters of cords of myoepithelial cells in a myxoid stroma. No mitoses or nuclear pleomorphism are seen. (H & E  $\times$  110).

vicular fossa (Figure 1). The majority of the superficial lobe of the parotid was present. The facial nerve was encased in the tumour. The tumour extended to the stylomastoid foramen and along the divisions of the nerve. A total parotidectomy and en bloc neck dissection was performed. A histological diagnosis of recurrent pleomorphic adenoma was made (Figure 2). The separate nodules displayed similar features (which were those of pleomorphic adenoma) with cords and nests of bland myoepithelial cells within a myxoid stroma. There was no significant nuclear pleomorphism and no mitoses, necrosis, vascular invasion or adenocarcinomatous areas were seen.

In view of the extensive nature of the recurrence and the possibility of an incomplete excision, external beam radiotherapy (60 Gy) was administered to the parotid bed and neck.

Subsequently the patient underwent reconstructive surgery to adjust the facial cosmetic deformity. A temporalis transfer to the paralysed eyelids, a fascia lata angle of mouth sling and facial adjustment have significantly improved the surgical deformity. The patient was recurrence-free two years after completion of the treatment.

### Discussion

The management of recurrent pleomorphic adenomata is a surgical challenge. It is accepted that control of the disease becomes more difficult with each ensuing recurrence. Operating on recurrent disease increases the morbidity with respect to preservation of the facial nerve as fascial planes have been violated. Control of the disease in young patients is important in view of the potential for malignant change in later decades.

The ideal is to replace the nerve with a primary graft after having had to sacrifice it. Difficulties do arise when the nerve has been transected at the stylomastoid foramen and far into the peripheral branches. There is still some uncertainty as to the effects of post-operative radiotherapy on nerve growth when a graft has been used.

Widespread recurrence is uncommon. Tumour spillage and residual tumour following an enucleation may be but one of the initiating features. A superficial parotidectomy is not infrequently followed by a report of a narrow margin of clearance as large tumours often occupy a significant proportion of the superficial lobe of the parotid. A conservative stance is usually adopted and the patient carefully followed up.

The introduction of a superficial parotidectomy rather than tumour enucleation has reduced the recurrence rate (Woods *et al.*, 1975; Fee *et al.*, 1978; Hawe and Millar-Bell, 1982) and enucleation is therefore condemned by most authors. Myssiorek *et al.* (1980) in their paper reported that despite seven per cent of a group of 98 patients having tumour at the excision margins, there were no recurrences. Another seven per cent of patients having tumour at the excision margins, there were no recurrences documented on follow-up. It is possible that local immunological factors or histological subtypes play a role in determining recurrence (Naeim *et al.*, 1976). Cases of benign pleomorphic adenomata metastasizing to lung and bone have been reported. Clearly some may have a low grade malignant potential. Maran *et al.* (1984) cited tumour implantation along the drain tract. In this reported case the recurrence extended well below the drain site.

Malignant transformation of pleomorphic adenomas occurs at rates varying from 1.6 per cent (Eneroth *et al.*, 1968) to 15 per cent in cases of recurrent tumours (Maran *et al.*, 1984). Stevens and Hobsley (1982) presented a 14 per cent malignant transformation rate in a series of 28

patients studied with recurrent disease. Minic (1993) recently reported a case where neck metastases contained the features of both pleomorphic adenoma and carcinoma ex-pleomorphic adenoma. Histologically it is not possible to predict which pleomorphic adenomas have a malignant potential.

The place of post-operative radiotherapy is still questioned. Most surgeons feel that radiotherapy is indicated in those cases where the tumour was reported to be close to the margin of excision. In those with recurrent disease there would appear to be no question.

The incidence of recurrent local disease has diminished considerably since abandoning enucleation procedures, which are to be condemned. Radical surgery for recurrent pleomorphic adenomas of the parotid is the management of choice. Local control of disease becomes more difficult with each ensuing recurrence. The risk of malignant transformation is greater in patients with recurrent tumours. Malignant transformation may occur decades after presentation of the primary lesion and has a poor prognosis. The techniques now available for the reconstruction of the paralysed face can compensate for the necessity to resect the facial nerve. Emotive issues should not cloud the requirement for control of the disease.

#### References

- Eneroth, C. M., Blanck, C., Jakobson, P. (1968) Carcinoma in pleomorphic adenoma of the parotid gland. *Acta Otolaryngologica* **66**: 477-492.
- Fee, W. E., Goffinet, D. R., Calcaterra, T. C. (1978) Recurrent mixed tumours of the parotid gland: results of surgical therapy. *Laryngoscope* **88**: 265-273.
- Hawe, M. J. G., Millar-Bell, D. (1982) Superficial parotidectomy for pleomorphic parotid adenomas. *Clinical Oncology* **8**: 207-213.
- Maran, A. G. D., Mackenzie, I. J., Stanley, R. E. (1984) Recurrent pleomorphic adenoma of the parotid gland. *Archives of Otolaryngology* **110**: 167-171.
- Minic, A. J. (1993) Unusual variant of a metastasizing malignant mixed tumour of the parotid gland. *Oral Surgery, Oral Medicine, Oral Pathology* **76**: 330-332.
- Myssiorek, D., Ruah, C. B., Hybels, R. L. (1980) Recurrent pleomorphic adenomas of the parotid gland. *Head and Neck Surgery* **12**: 332-336.
- Naiem, F., Forsberg, M., Waisman, J., Coulson, W. F. (1976) Mixed tumours of the salivary glands. Growth pattern and recurrence. *Archives of Pathology and Laboratory Medicine* **100**: 271.
- Stevens, K., Hobsley, M. (1982) The treatment of pleomorphic adenoma by formal parotidectomy. *British Journal of Surgery* **69**: 1-3.
- Woods, J. E., Chong, G. C., Beahrs, O.H. (1975) Experience with 1360 primary parotid tumours. *American Journal of Surgery* **75(130)**: 460-462.

Address for correspondence:

Mr N. M. Breach, F.R.C.S., F.D.S., R.C.S.,  
Department of Head and Neck Surgery,  
Royal Marsden Hospital,  
Fulham Road,  
London SW3 6JJ.