

Superficial parotidectomy under local anaesthesia

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Abstract

We report a case of superficial parotidectomy performed under local anaesthesia. The patient presented with a parotid lump in which aspiration cytology showed cells consistent with mucoepidermoid carcinoma or adenocarcinoma ex pleomorphic adenoma. Despite counselling the patient refused general anaesthesia but accepted the need for removal of the pathology.

We have been unable to find a single case report in the English literature since 1966 outlying this procedure being undertaken solely under local anaesthesia.

Key words: Parotid Neoplasms; Parotid Gland, Surgery; Anaesthesia, Local

Introduction

Superficial parotidectomy is the treatment of choice for T1 and T2 parotid tumours with conservation of the facial nerve.¹ The operation is normally performed under general anaesthesia without muscle relaxants to facilitate nerve stimulation. A facial nerve monitor is advised.² This report describes the challenging yet possible alternative of performing this procedure under local anaesthesia.

Case report

A 47-year-old man presented with an 18-month history of a 2 cm lump in the right anterior parotid region. Fine needle aspiration cytology (FNAC) showed cells with malignant features. The differential diagnosis included mucoepidermoid carcinoma and adenocarcinoma ex pleomorphic adenoma. The patient was offered a superficial parotidectomy but refused due to a childhood phobia of general anaesthesia. He was reviewed by both the psychiatrists and the anaesthetists, who were unable to reassure him. He consented, however, to have the procedure under local anaesthesia. He was aware that superficial parotidectomy had not previously been reported as being performed in this way.

In theatre he was positioned supine in the reverse Trendelenburg position. To achieve local anaesthesia, 42 ml of 0.25 per cent bupivacaine (105 mg) with 1 in 200 000 adrenaline was infiltrated with a 22 gauge Yale spinal needle. This was injected along the incision site, deep to the preauricular groove and along the external auditory meatus. It was also infiltrated in the region of the facial skin flap extending beyond the anterior margin of the tumour. He was given oxygen at 2 litres per minute, midazolam 8 mg, fentanyl 0.15 mg, droperidol 10 mg and 1000 ml Hartman's solution. He had full anaesthetic monitoring (oxygen saturation, blood pressure and ECG). Electrical monitoring and nerve stimulation were not used because of patient discomfort and because he was able to move his face on command, providing reliable facial nerve monitoring.



FIG. 1
Parotid dissection.

The standard S-shaped cervicomastoidfacial incision was made, the greater auricular nerve was sacrificed and the facial nerve was identified using the usual landmarks. The facial nerve was followed distally, preserving its branches,



FIG. 2

Intra-operative demonstration of facial nerve function.

and a superficial parotidectomy, with tumour removal, was performed. The operation lasted about two hours. Throughout the procedure he was alert, fully orientated and comfortable. Figure 1 shows the extent of the dissection. Figure 2 is a photograph of the patient intra-operatively demonstrating right-sided facial nerve function.

There was no facial nerve deficit pre-, peri- or post-operatively. However, he developed a salivary-cutaneous fistula post-operatively, that resolved with conservative management. The histology showed that the tumour was a completely excised benign pleomorphic adenoma.

Discussion

To our knowledge, this is the only described case report in the English literature since 1966, of superficial parotidectomy, successfully performed purely under local anaesthesia. One article in Japanese³ described the lumpectomy of a parotid cancer in an elderly lady. This was not a superficial parotidectomy.

In view of the cytological diagnosis of malignancy in this case, a superficial parotidectomy was advised with preservation of the facial nerve.

FNAC is a useful investigation performed routinely in the pre-operative work-up of patients presenting with lumps within the head and neck. FNAC has a sensitivity for malignancy of 90 per cent and a specificity of 100 per cent.⁴ Based on a cytological diagnosis in the patient reported, a superficial parotidectomy was the only appropriate management option.

Local anaesthesia was used as the patient refused to undergo the procedure under a general anaesthetic. Bupivacaine (an amide local anaesthetic agent) provided adequate anaesthesia throughout this procedure. Not only is it four times as potent as lignocaine, but more importantly its duration of action is up to four times longer. This provides up to six hours of local anaesthesia, adequate time for completion of surgery. Local anaesthetic agents, such as bupivacaine, preferentially block the smaller pain and autonomic nerve fibres, leaving the larger motor, touch and proprioception fibres relatively unaffected.⁵ This allowed visualization and assessment of facial nerve function throughout the procedure.

The patient was able to converse coherently throughout the procedure and has full recollection of the operation. We conclude that it is possible to perform a superficial parotidectomy safely under local anaesthesia. However it should only be undertaken by a surgeon experienced in parotid surgery.

References

- 1 British Association of Otolaryngologists Head and Neck Surgeons. *Effective Head and Neck Cancer Management Consensus Document 1998*
- 2 Watkinson JC. Surgery of the parotid gland. In: Bleach N, Milford C, van Hasselt A, eds. *Operative Otorhinolaryngology*, 1st edn. Oxford: Blackwell Scientific Publications, 1997;436–43
- 3 Fujimura T, Yonemura Y, Kamata T, Takegawa S, Sugiyama K, Nishimura G, *et al.* A case of parotid tumour showing remarkable regression following hyperthermochemo-radiotherapy. *Jpn J Cancer Chemother* 1987;**14**:723–7
- 4 Tew S, Poole AG, Philips J. Fine-needle aspiration biopsy of parotid lesions: comparison with frozen section. *Aust New Zealand J Surg* 1997;**67**:438–41
- 5 Reid JL, Rubin PC, Whiting B, eds. Anaesthesia and the relief of pain. In: *Lecture Notes on Clinical Pharmacology*. 5th edn. Oxford: Blackwell Scientific Publications, 1996

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