Parotid Dissection

B7

F. B. MacGregor

A parotidectomy may be performed in the management of benign or malignant tumours, or severe inflammatory or infective disease, e.g. atypical mycobacterium. Often all or part of the superficial lobe is removed, i.e. superficial parotidectomy, and only in certain circumstances is total parotidectomy required. A very important and significant consideration of this operation is the potential damage to the facial nerve, which may result in temporary or even permanent damage to facial movement.

Operative Technique

Set up the nerve monitor and ensure that this is working prior to preparing the patient for surgery. It is advisable, particularly in children, to use operating loupes or the operating microscope to adequately visualise the small branches of the facial nerve.

Use a shoulder roll and head ring. Turn the head away from the operator. Leave the ipsilateral face including the eye, nose and corner of the mouth exposed. Protect the exposed eye with, for example, a corneal shield.

A modified Blair's incision is popular for this approach but a modified facelift incision can also be used with small posterior lesions. In the neck, take the incision at least 2 cm below the angle of the mandible to avoid the marginal mandibular branch (Fig. 1).

Extend the incision through the platysma in the neck. Take the incision down to the investing fascia layer around the parotid (white and shiny appearing). Elevate a flap, dissecting superficial to the parotid gland. Use fishhooks or a suture

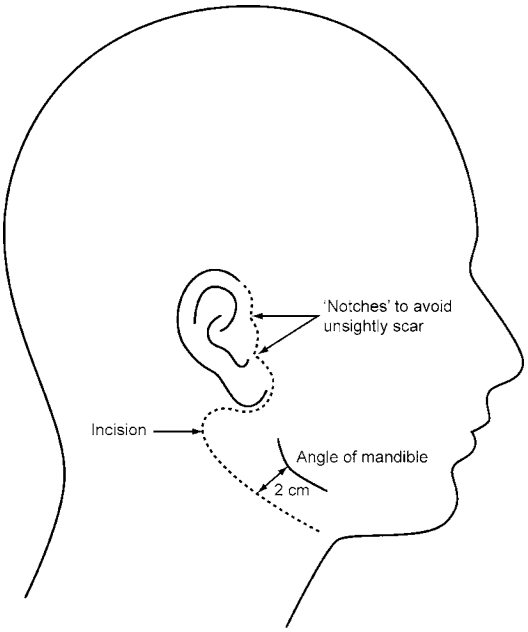

Fig. 1

to secure the flap anteriorly. Release the earlobe and insert a silk suture to retract posteriorly. Use a scalpel to release the tail of parotid from the sternocleidomastoid muscle and retract the gland anteriorly. Generally, the greater auricular nerve is divided. Dissect down between the parotid gland and the tragal cartilage. Remain immediately on the cartilage and open widely superiorly and inferiorly to ease access. Identify the tragal pointer. Expose the posterior belly of digastric and palpate the tympanomastoid suture. At this point start using forceps and open up, dissecting in the direction of the nerve.

The facial nerve trunk is normally found 1cm deep and 1cm anterior to the tragal pointer but it is more superficial in younger children (Fig. 2). The facial nerve exits through the stylomastoid foramen approximately 6–8 mm deep to the inferior end of the tympanomastoid suture line. It exits between the styloid process, which can be pal-

Fiona B. MacGregor (✉)
Consultant Paediatric Otolaryngologist
Fiona.MacGregor@ggc.scot.nhs.uk

R. Carachi, S. Agarwala, T.J. Bradnock (Eds), *Basic Techniques in Pediatric Surgery*
DOI: 10.1007/978-3-642-20641-2_39, © Springer-Verlag Berlin Heidelberg 2013

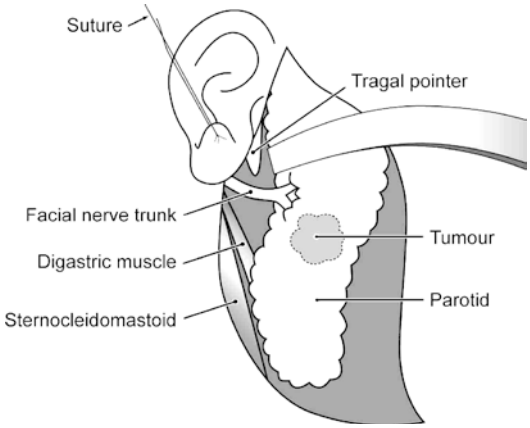

Fig. 2

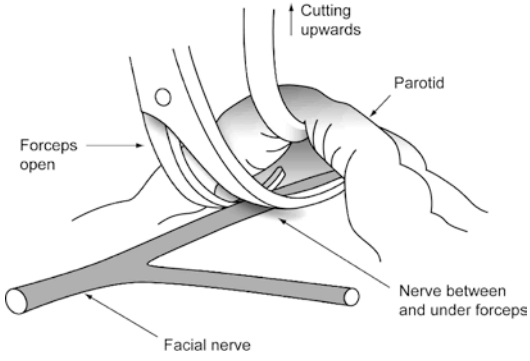

Fig. 3

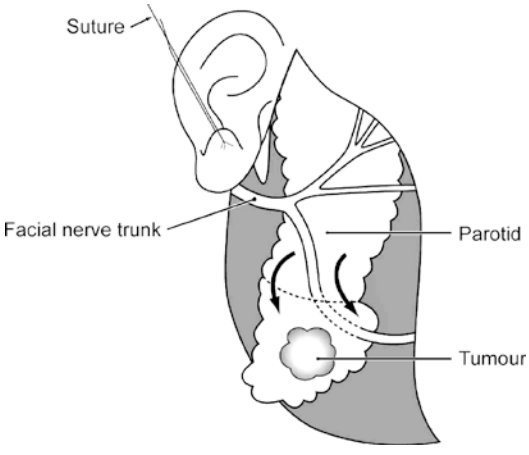

Fig. 4

pated, and the attachment of the digastric muscle to the digastric ridge. Once the main nerve trunk is identified use a fine curved mosquito haemostat, inserting this immediately above the nerve in the direction of the nerve. Lift the forceps up slightly creating a tunnel, open and separate, and then divide the parotid tissue whilst protecting the nerve (Fig. 3). It is often helpful to use bipolar diathermy before dividing each section of salivary tissue to avoid troublesome bleeding but be careful to avoid using diathermy close to the nerve.

Carefully dissect out the upper and lower divisions of the facial nerve using this technique. Depending on the position of the tumour, it may be only necessary to dissect out the superior or inferior branches (Fig. 4).

If a deep lobe dissection is required then nerve branches have to be completely dissected and gently retracted (use sloops) to gain access and remove the deep lobe.

Once the involved portion of the gland is dissected it can be removed. Haemostasis should be obtained and continuity of the nerve confirmed with the use of the nerve stimulator. A drain is recommended in most situations and the wound is closed with a subcutaneous absorbable suture and nylon to skin.

Tips

- Remind the anaesthetist not to use muscle relaxant.
- Take a brief rest after nerve trunk has been exposed.
- Careful haemostasis is vital so you can see the fine branches of the nerve.
- Enhance haemostasis by elevating the head of the bed and use adrenaline patties if there is small ooze around the nerve.
- Use regular saline washes.

Common Pitfalls

- Avoid repeated stimulation of the nerve as this may cause temporary weakness.
- Avoid dissecting down a deep hole.
- Open the wound widely to gain good access and illumination when identifying the nerve.
- A parotidectomy is more challenging in children because the nerve is smaller and there is a lack of development of the mastoid tip.
- The main trunk is much more superficial than in adults and it is at a higher level. The lower division runs very superficially over the angle of the mandible.