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Feasibility of a new V-shaped incision for parotidectomy: a preliminary report

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Abstract

We report the design of a new V-shaped incision for parotidectomy that involves only preauricular and postauricular incisions and no hairline or upper cervical incision. It can be used to approach almost all the superficial parotid region, including the superior and anterior divisions, with minimal scarring. To evaluate its technical feasibility, safety, and cosmetic results, we prospectively enrolled 15 patients (between September 2015 and September 2016) who had partial parotidectomy as the primary treatment for benign parotid tumours. Operations were successfully completed through this approach alone in 14 (mean (range) operating time: 120 (105–142) minutes; drainage volume: 51 (23–70) ml; and duration of drainage: 2.6 (2–4) days). There were no serious complications such as paralysis of the facial nerve or necrosis of the wound. The mean (range) visual analogue scale (VAS) and Vancouver Scar Scale scores for the scars were 9 (8–10) and 0.9 (0–3), respectively. A V-shaped incision for partial parotidectomy is technically feasible and safe, and can produce good cosmetic results in selected patients with benign parotid tumours. Our results need to be confirmed in larger studies and case-control trials.

Keywords: Parotid; Surgery; Approach; Scar; Cosmetic

Introduction

To allow wide exposure for dissection of the facial nerve and parotid gland tumour, operations have traditionally been done through a bayonet-shaped (Blair) incision from the lateral face down to the upper neck.[1,2] Although the scars usually heal well and fade over time, healing can take several months or years, and in some cases, may result in hypertrophic or keloid scarring. A visible scar on the exposed surface of the neck reduces the patients' satisfaction because for them, one of the most important reasons for the operation is to resolve the deformity in the neck.

With increasing awareness of the cosmetic result, a modified facelift incision, which consists of preauricular, postauricular, and hairline incisions, is now widely used for parotidectomy.[1,3–5] Although it provides better cosmetic results than the conventional Blair incision because most of the incisions are hidden behind the auricle and hair, there is an increased risk of flap necrosis, and the hairline incision can cause alopecia and hypertrophic scarring.[6,7] In parotidectomy the necessity for a hairline incision in a modified facelift is questionable because it does not involve the site of the parotid gland or the landmarks used to identify the facial nerve.

Recently, in selected cases, scores for satisfaction with the scar after parotidectomy through a retroauricular hair-

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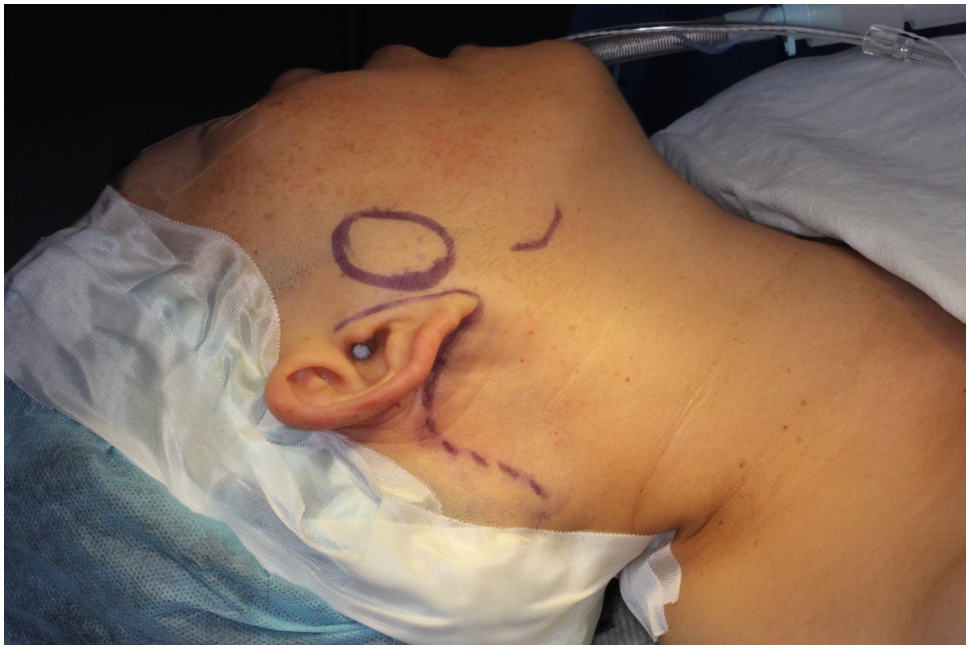

Fig. 1. The V-shaped incision starts in the preauricular area along the natural skin crease, is curved around the ear lobe, and continues posterosuperiorly along the postauricular sulcus to the level of the external auditory canal. The hairline incision is also marked as a dotted line so that the incision can be extended intraoperatively if necessary.

line approach (without a preauricular incision) were higher than those through facelift incisions.[8] However, when using a retroauricular hairline incision, the dissection has to be in an anterior and inferior direction, which adequately exposes tumours in the middle and inferior divisions, but does not adequately expose those in the superior and anterior divisions.[8–10]

To facilitate an approach to the entire superficial parotid region, including the superior and anterior divisions, and to minimise the scar by eliminating the unnecessary part of the incision, we have designed a V-shaped preauricular and postauricular incision with no hairline or upper cervical incision. In this preliminary report, we evaluate its technical feasibility and safety.

Patients and methods

Patients

This study was designed as a prospective case series. The institutional review board at our hospital approved the protocol, which followed the ethical principles of the Declaration of Helsinki, and written informed consent was obtained from all the patients. Between September 2015 and September 2016, we enrolled 15 patients who had partial parotidectomy as the primary treatment for benign parotid tumours. Before operation they all had ultrasound examination, computed tomographic (CT) scans of the neck, and fine-needle aspiration cytology to rule out malignancy. Those with tumours in the deep lobe of the parotid, or who had previously had operations on the neck, or irradiation, were excluded.

Surgical technique

All patients were operated on under general anaesthesia by a single head and neck surgeon using 2.5 x loupes. Patients were placed in a supine position, with the neck extended and the head rotated to the contralateral side. The incision started at the level of the tragus in the preauricular area, then proceeded along the natural skin crease and continued downwards to the ear lobe. It curved around the ear lobe then continued posterosuperiorly along the postauricular sulcus, and usually stopped at the level of the external auditory canal (Fig. 1). If necessary it could readily be extended into a hairline incision, which was marked as a dotted line. The skin flap was raised in the anterior, inferior, and posterior directions to expose the parotid gland and anterior border of the sternocleidomastoid muscle, and the earlobe was detached from the parotid fascia and retracted superiorly. Dissection between the parotid gland and sternocleidomastoid muscle enabled identification of the main trunk of the facial nerve using the tympanomastoid fissure as a landmark. With appropriate retraction of the flap, the relevant branch of the facial nerve was carefully dissected and the tumour removed completely with an adequate resection margin that included normal parotid tissue (Fig. 2). A suction drain was then inserted behind the posterior end of the incision and the wound tightly closed with interrupted 4-0 polyglactin 910 (Vicryl) and 5-0 nylon sutures. The skin sutures were removed after five to seven days.

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