

Controversies in Parotid Defect Reconstruction



Matthew Tamplen, MD^a, P. Daniel Knott, MD^a, Michael A. Fritz, MD^b, Rahul Seth, MD^{a,*}

KEYWORDS

• Parotid defects • Parotidectomy • Reconstruction • Facial nerve • Microvascular surgery

KEY POINTS

- Multiple reconstructive options are available for parotidectomy defect reconstruction. These vary depending on the extent of parotidectomy—superficial, total, or radical.
- Reconstructive considerations include facial contour, avoidance of Frey syndrome, skin coverage, tumor surveillance, potential adjuvant therapy, and facial reanimation.
- Parotidectomy reconstruction should be tailored to the patient, specific to the defect, and within the comfort level of the reconstructive surgeon.
- Facial reanimation should be performed in radical parotidectomy reconstruction while giving consideration to patient age, comorbidities, prognosis, goals of treatment, and future adjuvant radiation therapy.

INTRODUCTION

Effective and aesthetically pleasing reconstruction of the parotidectomy defect requires full understanding of both facial form and function. To appropriately discuss the varying reconstructive methods available, defects created by superficial parotidectomy, total parotidectomy, and radical parotidectomy are addressed separately. Overall, reconstructive emphasis is placed on recreating facial contour, avoiding Frey syndrome, providing skin coverage, minimizing deleterious effects of adjuvant therapy, and restoring facial function. Areas of controversy are highlighted and discussed.

SUPERFICIAL PAROTIDECTOMY

Reconstruction of the superficial parotidectomy defect is usually easiest when performed primarily, because the defect and facial nerve are exposed. The greatest risk of secondary reconstruction is inadvertent facial nerve injury. Options for addressing facial asymmetry after superficial

parotidectomy include abdominal fat grafting, use of injectable fillers, placement of acellular dermal matrix (ADM), sternocleidomastoid rotational flap, temporoparietal fascia (TPF) rotational flap, and superficial muscular aponeurotic system (SMAS) advancement flaps.

Although usually of minor significance, the contour defect after superficial parotidectomy can be disfiguring. In addition to facial asymmetry, Frey syndrome, also known as gustatory sweating, commonly affects patients undergoing superficial parotidectomy and is caused by aberrant reinnervation of severed parasympathetic fibers to sweat glands of elevated cheek skin.^{1,2} The incidence of Frey syndrome ranges from 38% to 86% depending on if subjective or objective measures are used.³

Frey syndrome can be treated secondarily with botulinum toxin type A; however, the therapeutic effect after injection with botulinum toxin type A is temporary and patients most affected by Frey syndrome may require lifelong recurrent injections. Secondary surgical procedures offering potential permanent solutions for Frey syndrome may place the exposed

Disclosures: M.A. Fritz: Consultant to Stryker; All the other authors in this article have nothing to disclose.

^a Department of Otolaryngology–Head and Neck Surgery, University of California San Francisco, 2233 Post Street, 3rd Floor, San Francisco, CA 94115, USA; ^b Head and Neck Institute, Cleveland Clinic, CCLCM, 9500 Euclid Avenue, Desk A71, Cleveland, OH 44195, USA

* Corresponding author.

E-mail address: Rahul.Seth@ucsf.edu

Facial Plast Surg Clin N Am 24 (2016) 235–243

<http://dx.doi.org/10.1016/j.fsc.2016.03.002>

1064-7406/16/\$ – see front matter © 2016 Elsevier Inc. All rights reserved.

facial nerve at risk. Measures taken at the time of primary surgical treatment of the parotid to prevent the development of Frey syndrome provide optimal results. Several surgical techniques may be used, all of which involve placement of a barrier between remaining parotid tissue and the elevated skin flap. As an added benefit, this barrier can provide varying degrees of volume to the defect site to improve facial contour. Barrier options include abdominal fat, ADM, and autogenous vascularized tissue, such as sternocleidomastoid rotational flap, TPF rotational flap, and SMAS advancement flaps. There is some debate regarding the success rates of each technique (discussed later).

Abdominal Fat Grafting

Autologous fat transfer is a widely used technique for moderate contour defect restoration that has the benefits of simplicity, minimal donor site morbidity, and little additional operative time. Abdominal fat is typically harvested via a lower abdominal incision, and placed into the defect site en bloc (**Fig. 1**). High patient satisfaction, correction of contour defect, and avoidance of Frey syndrome have been demonstrated in patients undergoing superficial or total parotidectomy with single-stage en bloc abdominal fat grafting.^{4,5}

A composite of de-epithelialized dermis with an en bloc fat graft, known as a dermofat graft, may likewise be applied to the parotid defect site.^{6,7} It is thought that inclusion of the dermis prevents fat necrosis and minimizes graft resorption. Dermofat grafts require larger harvest incisions, typically positioned at the lower abdomen, and subsequent de-epithelialization. Results have shown that this technique is associated with little associated morbidity or additional operative time. Nosan and colleagues⁸ reported only 11% facial concavity after 4.5 years of follow-up using a dermofat graft to correct

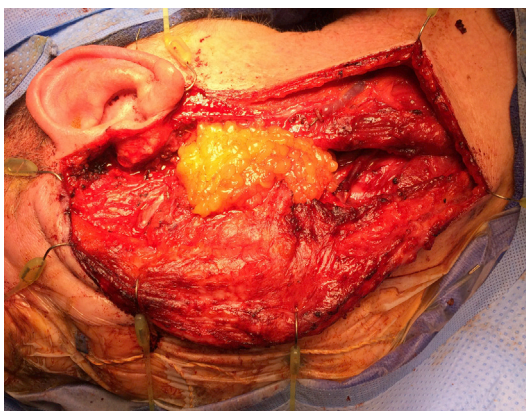


Fig. 1. En bloc abdominal fat graft positioned for volume restoration.

superficial parotid defects. Patients were overcorrected by 10% to 15% to account for resorption.

Curry and colleagues⁹ described a method of SMAS plication and dermofat grafting with a 10% to 20% overcorrection after superficial parotidectomy. This method resulted in a statistically significant decrease in facial asymmetry and symptomatic Frey syndrome in 34 patients. SMAS elevation is not always possible, however, after parotidectomy for malignancy.

Regardless of method, most investigators recommend initial volume overcorrection by 10% to 20% for optimal results. Preoperative or postoperative radiation therapy may increase fat reabsorption rate.

Some investigators suggest only performing fat grafting for benign parotid disease, such that the fat grafting does not interfere with tumor surveillance in malignant cases.⁹ Abdominal fat grafting after resection of parotid malignancy, however, has not been shown detrimental to clinical or radiologic tumor surveillance.⁵ Due to improved imaging techniques and the potential for recurrent tumors to spread deep or longitudinally, radiographic tumor surveillance offers many advantages to clinical evaluation in the monitoring of postparotidectomy patients. The distinctive appearance of fat on MRI allows for easy delineation of the fat graft from normal or pathologic parotid tissue.

Injectable Fillers

Although preferred, volume restoration of the superficial parotid defect may not always be performed primarily. Therefore, techniques for secondary volume restoration may be required. One method of secondary correction is with injectable synthetic dermal fillers to add volume to a concave region. Synthetic dermal fillers are widely used for facial volume loss related to ageing but can also be a beneficial method for patients with postoperative volume deformities. Two dermal fillers, poly-L-lactic acid and calcium hydroxyapatite, bear specific indication by the US Food and Drug Administration for treatment of HIV-associated lipoatrophy in the parotid region, but none has a specific indication for facial asymmetry after parotidectomy.

Poly-L-lactic acid is a biocompatible synthetic polymer that provides volume and incites a local tissue reaction to stimulate proliferation of fibroblasts. It is immunologically inert, safe, and well tolerated. Because of reabsorption over time, the volume correction lasts up to 2 years and a series of several injections is required for optimal results.¹⁰ Partially cross-linked hyaluronic acid dermal fillers are also used for management of facial volume loss in patients suffering from highly active

Download English Version:

<https://daneshyari.com/en/article/4110492>

Download Persian Version:

<https://daneshyari.com/article/4110492>

[Daneshyari.com](https://daneshyari.com)