Sternocleidomastoid Muscle Flap (SCM) Reconstruction following Superficial Parotidectomy

Parotidectomy was first reported in 1823 by Bernard [1]. Since that time, the procedure has expanded to include applications for benign and malignant conditions. Removal of all or part of the parotid gland often leaves a depression in the retromandibular / infraauricular region. The defect may cause a pronounced asymmetry and is often the source of anxiety, particularly in young people with benign disease. Jost et al. first reported the cosmetic advantage of utilizing the sternocleidomastoid flap for parotidectomy in 1968 [2]. This flap additionally may be used to reduce the incidence of Frey’s syndrome post parotidectomy [3]. Parotidectomy traditionally involves the use of a surgical drain and this results in longer hospital stay and increased cost. Herein we describe our approach in parotidectomy in which a superiorly based sternocleidomastoid flap is used without the need of a surgical drain but instead with a facelift dressing.

Preparation
Preoperatively all patients were prepared as per for a standard parotidectomy.

Procedure
A standard Modified Blair Incision was used to approach the parotid gland. A facial nerve monitor was used in all cases. During the procedure the anterior border of the SCM was exposed in the usual fashion as part of procedure (Figure 1). Once the superficial parotidectomy was performed, the residual cheek depression deformity was repaired with a superiorly based sternocleidomastoid muscle flap. This was developed from the anterior half of the superior portion of sternocleidomastoid muscle flap, based at the mastoid process (Figure 2), rotated and fixed to the remaining SMAS in the parotid defect (Figure 3). The accessory nerve was identified and protected in all cases. A piece of compressed gelfoam was placed between the muscle flap and the parotid bed. The deep layers were then suared with an absorbable suture. The skin incision was then closed with a non-absorbable monofilament suture. No drains were inserted. A Facelift dressing (Figure 4a,b) was applied prior to the patient being aroused from general anesthesia.

Postoperative care
All patients undergoing a sternocleidomastoid flap reconstruction had their facelift dressing removed the next morning and were discharged from hospital. No antibiotics were given post operatively. A topical antibiotic ointment was applied to the wound for 7 days postoperatively and all patients were seen for suture removal at one week.

Discussion
We have reported a novel approach to facial reconstruction following superficial parotidectomy without the use of a drain. The senior author (SMT) has been using this approach for benign parotid surgery for over 5 years and has not had any patients who required further surgery for a postoperative hematoma. Similarly, we feel that significant cost savings can be achieved with this new approach as compared to conventional drain use.

In conclusion, we feel that the sternocleidomastoid flap reconstruction used following superficial parotidectomy offers patients a superior aesthetic result (Figure 5a,b). It may also confer some benefit in reducing postoperative complications such as Frey’s syndrome. The flap is safe to perform without the need of a post-operative drain and therefore does not lead to additional healthcare related costs in the postoperative period.

References
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Figure 1: The skin flap has been elevated and the SCM muscle is exposed to allow mobilisation.

Figure 2: The superior portion of the sternocleidomastoid muscle is elevated and mobilised.

Figure 3: The SCM flap is used to cover the defect left by the parotidectomy.

Figure 4: Facelift dressing applied under general anaesthetic (a). Patient awake with facelift dressing (b).

Figure 5: 1 year post-operative photo showing superior aesthetic result (a,b).