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Revisiting lip shave: a solution for disorders of the vermilion border

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Abstract

Actinic keratosis, leukoplakia, carcinoma in situ, and superficially invasive carcinomas of the lower lip are caused mainly by the cumulative effects of exposure of the vermilion of the lower lip to ultraviolet radiation. Current treatments all have limitations: cryosurgery or electrosurgery is suitable to treat only focal lesions; topical chemotherapy, which is an option for diffuse actinic damage, yields unreliable results; and laser treatment fails to rejuvenate the vermilion. However, "lip shave", which involves full-thickness excision of the damaged vermilion and reconstruction with an advancement labial mucosal flap, will produce a fresh mucosal lining to the vermilion border. We describe our experience of the technique and evaluate the functional and aesthetic outcomes in 20 patients treated between January 2011 and January 2016. The follow-up period ranged from 24 to 60 months. Three-quarters of the patients had dysplasia or superficially invasive malignancy. Resected lesions were about 63 mm long, 13.7 mm wide, and 3.9 mm deep. No patients had recurrence or secondary lesions during follow up, functional disturbance was minimal, and the cosmetic outcome pleasing. Lip shave can efficiently reconstruct the vermilion of the lower lip with minimum deformity.

Keywords: Actinic keratosis; vermilion border; Dysplasia; lip shave

Introduction

Many different types of benign and malignant lesions can affect the vermilion of the lower lip, and most are caused by the cumulative effects of exposure to the sun (direct or indirect). Histologically, the vermilion border of the damaged mucosa shows dysplasia, inflammatory infiltrate, and vasodilatation, as well as elastosis. Most benign lesions respond to conservative treatment, and recently, topical treatment with immune modulators such as imiquimod have had good responses,[1] but we know of no studies that show which treatments result in a long-lasting effect, prevent progression to frank squamous cell carcinoma (SCC), or improve the quality of the vermilion. Patients with superficial, early, multifocal, or widespread malignant disease of the vermilion can be treated by a less invasive operation before progression to established carcinoma.

Lip shave consists of full-thickness excision of the entire vermilion mucosa and precise repair.

Labial mucosal advancement flaps,[2,3] ventral tongue myomucosal flaps,[4] bipedicled myomucosal flaps,[5,6] or buccal mucosal transposition flaps can be used to reconstruct the vermilion of the lower lip and vermilion border, but a labial mucosal advancement flap is ideal, as it can achieve an aesthetically pleasing and functionally successful outcome, preserve the neurovascular component, and reconstruct the defect with tissue that matches in colour and texture. The

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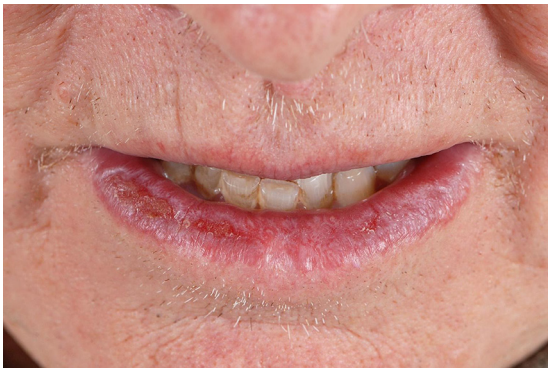

Fig. 1. Actinic keratosis of the lip.

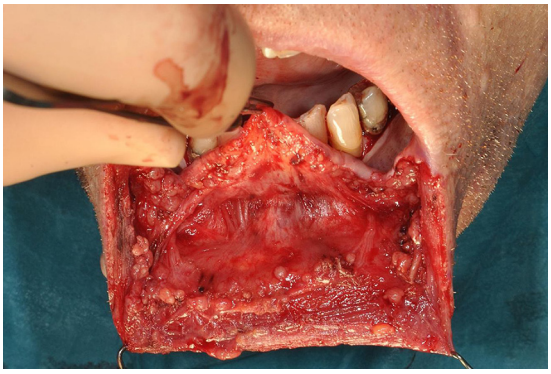

Fig. 2. Lip shave and mucosal advancement flap raised.

technique is not new, but the stimulus for publication was initiated by the senior author, as many young trainees and surgeons are not familiar with it. Cheiloplasty, a modified lip shave with an advancement flap, can also be done to add volume to the lower lip.

We retrospectively studied the outcome of patients who had a lip shave over a period of five years.

Patients and methods

Twenty patients who had lip shave and reconstruction with mucosal advancement flaps between January 2011 and January 2016, were included (10 men and 10 women, mean (range) age 65 (44–87) years). The follow-up period ranged from 24 to 60 months.

In all cases, lesions affected more than two-thirds of the vermilion of the lower lip. Scaling, recurrent ulceration, spontaneous bleeding and crusting, atrophy or erosive areas, extensive or multiple white plaques, and loss of vermilion definition, were common features of concern. All patients had had preoperative incisional biopsy of the most suspicious area, and actinic keratosis with dysplasia was confirmed in half the specimens (Fig. 1).

All the patients had a lower lip shave with immediate reconstruction with an advancement labial mucosal flap under local or general anaesthesia (Fig. 2). One had an extended lip shave of the upper and lower lips with composite resection of the commissure, and reconstruction with a nasolabial flap for invasive squamous cell carcinoma (SCC). Two had a simultaneous wedge resection for invasive SCC.

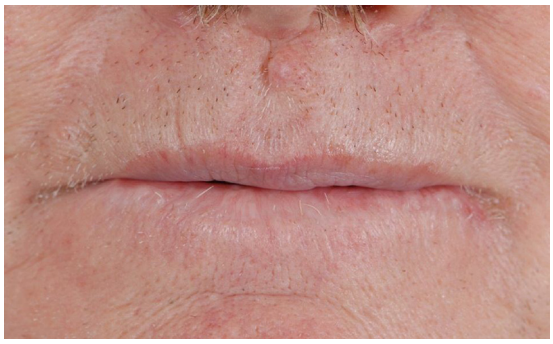

Fig. 3. Three months postoperatively at rest.

We assessed the competence of the lips, sensation in the lower lip, and effects on speaking, drinking, eating, wearing dentures, mouth opening, and on the application of lipstick by female patients. To evaluate the aesthetic outcome, we assessed the appearance of the vermilion border, oral commissure, postoperative scar, and symmetry of the lip at rest and when smiling (Figs. 3 and 4). All this information was collected during review appointments and recorded in the notes.

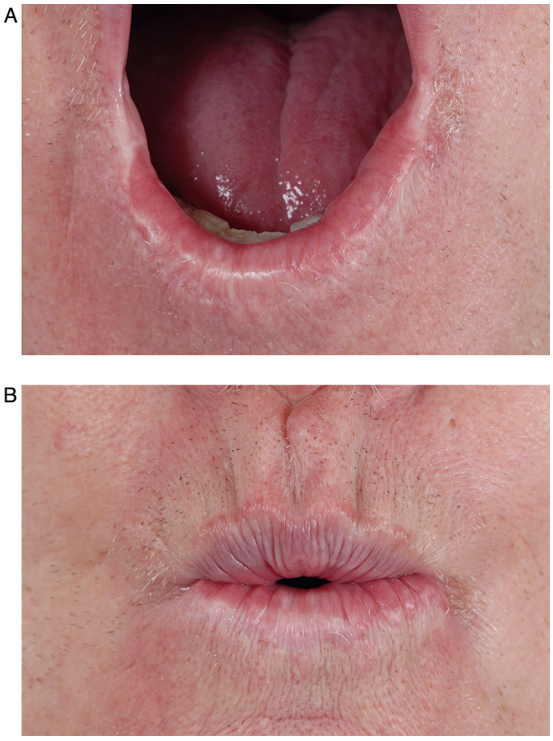

Fig. 4. a and b. Three months postoperatively at function.

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