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Letter

Island flaps in the repair of medial canthus: Report of 8 cases

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Abstract

Reconstruction of the medial canthus following skin cancer excision is often challenging because of the complex anatomy and the cosmetic relevance of that region. The island pedicle advancement flap is an extremely versatile flap, which is commonly used to close defects in different body areas, including face, trunk, and extremities. We report our favourable experience with the use of island flaps, mobilized from the nasal saddle or lateral nasal side wall in 8 patients who had skin defects on the medial canthus region after Mohs micrographic surgery for basal cell carcinomas.

Introduction

Reconstruction of the medial canthus, following skin cancer excision is often challenging because of the complex anatomy and the cosmetic relevance of that region. Second intention closure, grafts, or local flaps can be used with variable results [1]. A variety of local flap procedures, including glabellar transposition flaps, eyelid myocutaneous transposition or island flaps, upper eyelid rotation flaps, tunnelled forehead flaps, and others have been proposed to optimize outcomes [2,3,4,5,6]. Some of these methods are laborious to carry out and may present several drawbacks, such as excessive traction on eyelids, distortion of the natural concavity of the inner canthus, and prominent scars [5]. In addition, a few techniques appear useful to restore major defects, but they are probably unnecessary for smaller ones. The island pedicle advancement flap is an extremely versatile flap, which is commonly used to close defects in different body areas, including face, trunk, and extremities [7]. Nevertheless, it is rarely employed to repair defects near the eyes, especially when the medial canthus is involved [8]. Skaria AM has recently reported a series of 16 patients with medial canthus defects, following Mohs micrographic surgery (MMS), which have been successfully repaired with island flaps [9]. The donor sites were the glabella, nasal back, lateral nasal sidewall, or combinations thereof.

We report our favourable experience with the use of island flaps mobilized from the nasal saddle or lateral nasal side wall in 8 patients (Table 1) who had skin defects on the medial canthal region after MMS for basal cell carcinomas.

Methods

The preoperative diagnosis of basal cell carcinoma was clinical or in some cases histological. The patients (5 men and 3 women) were aged from 69 to 84 years (mean age 76 years). Defect sizes ranged from 7 to 15 mm (mean 10 mm). In 6 patients the defects were restored with single island flaps freed from the nasal saddle, whereas 2 patients had reconstructions with double island flaps harvested from the nasal back and the lateral nasal sidewall, respectively. The vascular pedicle was partially sectioned with a horizontal cut more superficially in proximity to the defect and more deeply in its distal portion, to warrant a better mobility a resurfacing with thinner skin. The lateral profile of the flap was adequately shaped to adapt it to the substance loss. No deep stitches were applied to anchor the flap to the underlying periosteum. All procedures were performed under local anaesthesia, without any relevant complication.

Table 1. Summary of the patient characteristics

Patient number	Sex	Age	Defect size (mm)	Flap number	Donor site	Follow-up (months)
1	F	84	7	1	NS	20
2	M	79	8	1	NS	16
3	M	76	15	2	NS + LNSW	15
4	F	69	8	1	NS	15
5	F	80	10	1	NS	13
6	M	72	15	2	NS + LNSW	11
7	M	75	12	1	NS	9
8	M	71	7	1	NS	6
Mean		76	10			13

NS: nasal saddle, LNSW: lateral nasal side wall

Results

No bleeding, suture dehiscence, or infection was observed. A transient trapdoor effect occurred in 2 patients. A mean follow-up of 13 months (range 6-20 months) revealed very satisfactory functional and cosmetic outcomes in all cases, with a natural appearance of the medial canthus and the eye commissure. No ectropion was apparent and the surgical scars were hardly visible or hidden in natural folds. Some cases are illustrated in Figures 1-8.

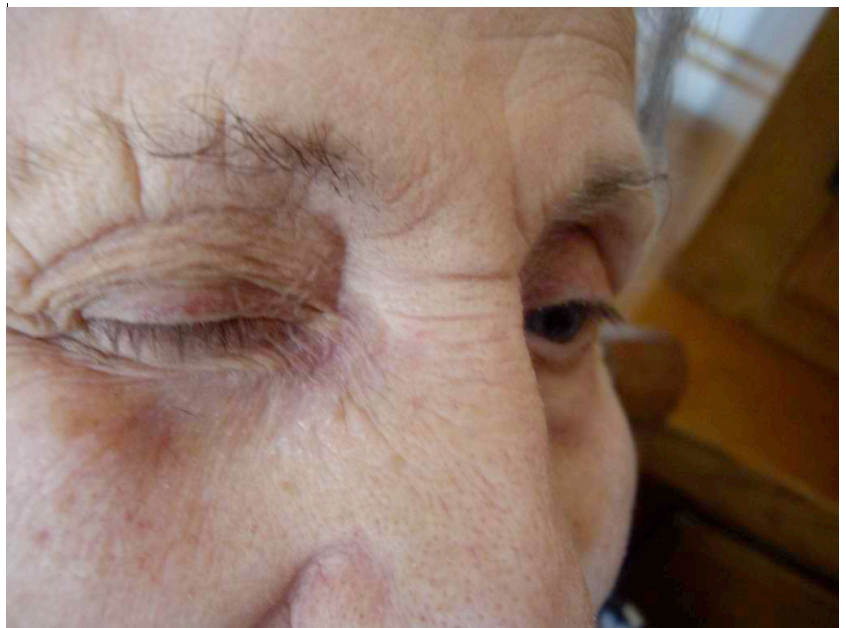
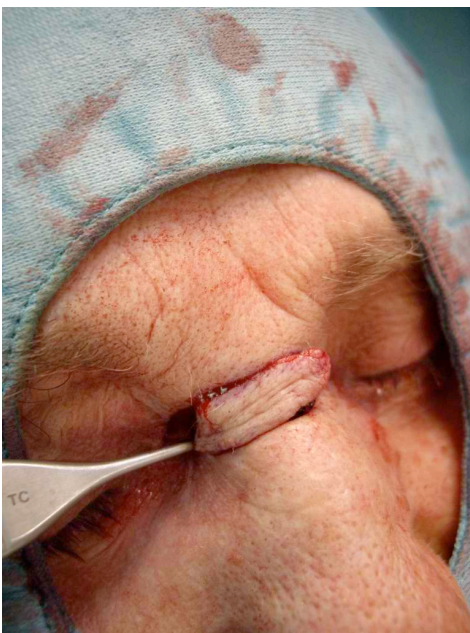


Figure 1. Incision and mobilization of an island flap from the nasal saddle to cover a medial canthus defect (Case 1). **Figure 2.** Post-operative view after 20 months (Case 1).



Figure 3. Defect and island flap design (Case 2). **Figure 4.** Incision and mobilization of the flap (Case 2).



Figure 5. View after 16 months (Case 2). **Figure 6.** Design of two island flaps from the nasal saddle and the lateral nasal side wall, respectively (Case 3).

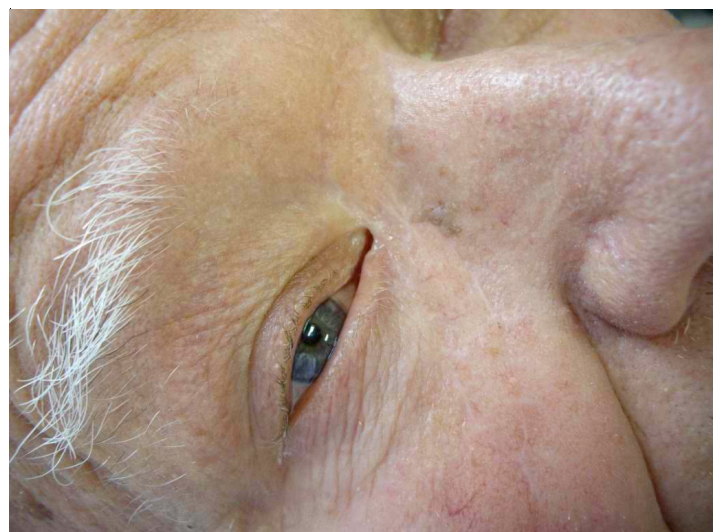


Figure 7. View of the suture (Case 3) **Figure 8.** Result after 15 months (Case 3)

Discussion

Although limited to a small case series, our experience supports the utility and advantages of the use of island flaps harvested from the nasal saddle in the reconstruction of small to medium size defects of the medial canthus. The procedure is easy to carry out and does not require complex planning. It allows a tension-free coverage with adjacent skin, which is similar in

color, texture, and thickness to the excised tissue. Upper eyelid webbing and residual kite shaped scars may occasionally result from this reconstruction procedure. However, none of these complications was apparent in our series. Obviously, this approach is feasible when the skin at this level shows a sufficient laxity and mobility over the underlying planes. A combination of two island flaps freed from the nasal back and the region between nose and cheek will greatly facilitate the coverage of larger defects, as shown in two of our cases. Finally, prospective randomized controlled trials would better delineate the advantages of this method relative to alternative closure options, including second intention healing and full or split-thickness skin grafts.

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