

Mutaf Triangular Flap Technique in the Repair of Infraorbital Skin Losses: Report of 5 Cases

Dear Editor,

Reconstructive surgery of the infraorbital region is particularly challenging because this area is surrounded by several mobile structures, such as the lower eyelid, the nasal ala and the oral commissure. Closures with excessive tension or long-term scar shrinkages may cause tractions on these landmarks, resulting in poor outcomes. Not suitable wounds to direct sutures can be restored with skin grafts or local flaps, such as the Lindberg flap, Mustardé cheek flap, naso-labial flap, bilobated flap, "reading man" flap, V-Y advancement flaps and others.^[1-4]

In 2011, Mutaf et al. described a new reconstructive procedure based on the use of two random pattern skin flaps designed in an unequal Z-plasty manner, which has been defined by the same authors as the "Mutaf triangular closure technique" (MTCT).^[5] The defect to repair is converted to an isosceles triangle with upper base and an imaginary point is identified on the lateral margin of the triangle. The length of the segment included between this point and the upper corner of the triangle is almost equal to the base of the triangle. Afterwards, two opposite triangular flaps are designed and incised. The first flap is transposed to cover the original defect while the second flap restores the donor site of the first flap.^[5]

We report our favourable experience with the use of the MTCT in five patients who had skin defects of the infraorbital region after surgical excision of basal cell carcinomas [Table 1]. The patients (three women and two men) were aged from 69 to 83 years (mean age: 77 years). Four patients underwent Mohs micrographic surgery (MMS). The mean number of MMS stages required for a complete tumour eradication was 1.5 (range: 1-2 stages). Triangular defect sizes ranged between 22 × 27 mm and 32 × 35 mm (mean: 27 × 31 mm). The mean follow-up was 19 months (range: 26-13 months). No relevant complications or drawbacks were observed. Follow-up controls revealed satisfactory functional and aesthetic results in all cases. In particular, there was no trap-door deformity and no traction on the neighbouring structures and surgical scars were poorly evident. Some cases are illustrated in Figures 1-2.

Most of the flap procedures used to restore infraorbital defects are based on the use of a single flap, which

causes traction towards a unique direction, with increased risk of complications, such as wound dehiscence, flap necrosis or retracting scars.^[4,5] Conversely, the MTCT utilizes two adjacent flaps, which allow a defect closure with a reduced tension, better distributed across multiple directions on the neighbouring tissue.^[5]

The rhomboid transposition flap, both in the original Limberg design and in the Dufourmentel modification, presents similarities to the MTCT. Both procedures use the lengthening Z-plasty principle for the repair of skin defects.^[5] However, in a single rhomboid flap, there is considerable tension across the tip of the flap, which creates traction on the original defect. MTCT prevents that pull.

In synthesis, the MTCT appears to be a valid option for the reconstruction of surgical defects of the infraorbital

Table 1: Patient and tumour data

Defect size (m)	Follow-up (months)	Sex	Age	Tumour type
30×34	26	M	83	BCC
25×30	13	F	79	BCC
24×30	18	M	76	BCC
22×27	16	F	69	BCC
32×35	13	F	80	BCC
19 Mean	1		77	1.5

27 × 31, M: Male; F: Female; BCC: Basal cell carcinoma; NP: Not performed; MMS: Mohs micrographic surgery

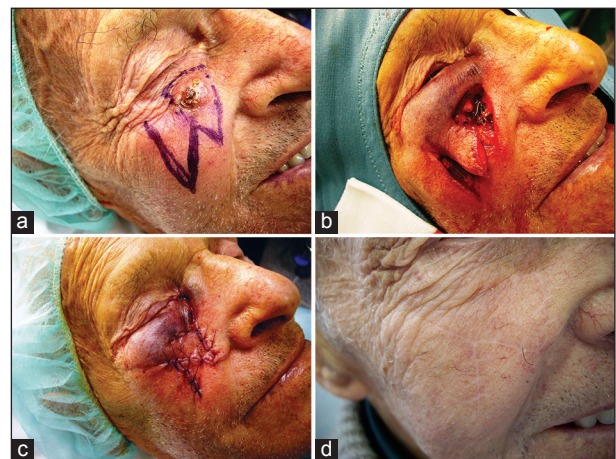


Figure 1: (a) Patient 1. Surgical plan – (b) incision of the flap, (c) view of the suture and (d) post-operative view after 12 months

Department of Dermatology, UO Dermatologia,
San Jacopo Hospital,
Pistoia - 51100, Italy.
E-mail: r.cecchi@usl3.toscana.it

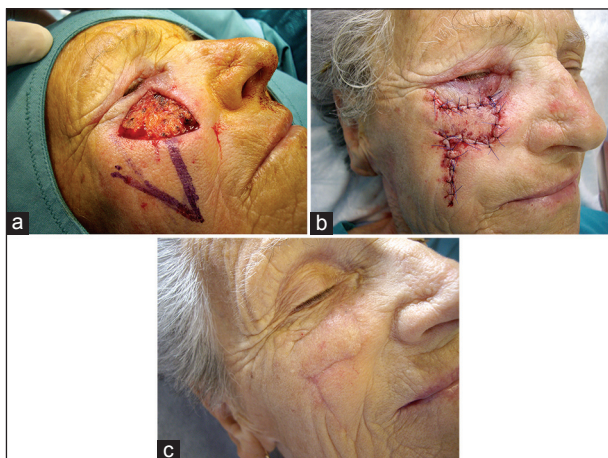


Figure 2: (a) Patient 4. Pre-operative view after Mohs micrographic surgery, (b) final suture and (c) post-operative view after 6 months

region, with promising functional and cosmetic outcomes.

**Roberto Cecchi, Laura Bartoli, Luigi Brunetti,
Giovanni Troiano**

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