Modification Of Reading Man Flap For Reconstruction Of Infraorbital Defects: a Case Report

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Case report

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Abstract

Background: Reconstruction of the defect in the infraorbital area after wide excision can lead to problems such as distortion of the anatomical point and ectropion. A “reading man” flap is a recent local flap procedure, which has been used to treat this problem.

Case Presentation: We report a case of keratotic basal cell carcinoma in the right infraorbital area. After wide excision, a defect of 40x35 mm was found, which was very close to the lid margin and close to the bottom of the eyebrow, which was reconstructed by reading man flap with slight modifications. Our modification is to extend the leg flap laterally, to avoid the lower part of the brow. So that the eyebrows are still protected from the flap incision.

Conclusion: Reading man flap as a circular defect closure option is a useful addition to the plastic surgeon's mastery of techniques for performing round periorbital defect reconstruction. Reading man flap can be designed flexibly. It is a good option for the closure of round or elliptical-shaped defects.

Background

The classic reading man flap is a recently described flap named after its appearance and is primarily used for malar circular reconstructions or infraorbital skin defects. Surgical complications such as lid retraction and ectropion from graft or flap scar contracture make reconstruction of skin defects in the infraorbital regions challenging (1). This flap avoids surgical complications such as ectropion and lower eyelid retraction but is limited to circular skin defects (2). The reading man flap can be used to reconstruct infraorbital circular defects with good cosmetic results and without creating any tractional forces to the eyelids. Reading man flap can be designed flexibly. It is a good option for the closure of round or elliptical-shaped defects (3–5).

Case Presentation

A 58-year-old man with a keratotic type basal cell carcinoma lesion in the right infra orbital that was getting bigger (Figure 1.A). Written informed consent was obtained from the patient for publication of this case report and any accompanying images. Wide excision was performed with a 5 mm margin by 1 stage with tumor-free margins. After wide excision, a defect of 40x35 mm was found, which was very close to the lid margin and close to the bottom of the eyebrow (Figure 1.B). In the following, we discuss how to close the defect.

Discussion And Conclusions

Originally, the reading man flap consists mainly of a superiorly based quadrangular flap and an inferiorly based triangular flap, in the form of an asymmetric Z plasty (3). The first limb is the line tangent to the top margin of the defect; another line is drawn at an angle of 60^0 above the first line, which is where the first line meets the defect. The second leg Z-plasty is then traced at a 90^0 angle, starting at the end of the

middle limb. The first flap is moved to the defect area, while the second flap is used to cover the donor area (1,2,6).

In this patient, fortunately, after wide excision, the tarsal plate was still remains and lash follicle were still intact. The problem with this defect was its location close to the lid margin and not far from the brow. If the second limb was drawn according to the original design, the lower part of the eyebrows will be cutting off in the line of the design. So the reading man flap was modified in which the first limb was made longer, and then the second limb could be estimated to be outside the brow area. The first limb was made at a blunt angle for getting a smoother movement.

The subcutaneous layer was sutured with 5.0 Vicryl, and the skin was covered with 6.0 nylon.

Reading man flap as a defect closure option is a useful addition to the plastic surgeon's mastery of techniques for performing circumferential periorbital defect reconstruction.

Declarations

Ethical Approval and Consent to participate:

Informed consent was obtained from the patient.

Consent for publication:

Informed consent was obtained from the patient.

Availability of data and materials:

Not applicable

Competing interests:

The authors declare that they have no competing interests.

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Author’s Contributions:

RRA directed the operation; conceived and designed the paper; collected the picture; wrote the paper. DSP encourage and supervised this work. RH encourage and corrected the paper. All authors discussed the results and contributed to the final manuscript.

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Figures

Figure 1

A. Keratotic type basal cell carcinoma lesion in the right infra orbital. B. After wide excicion

Figure 2

Design of reading man flap, with small modification. B. After closure. C. 3 weeks after. D. 3 weeks after.