

Use of the Z-plasty technique in nasal skin cancers

Two clinical cases



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Use of the Z-plasty technique in nasal skin cancers. Two clinical cases

Basal cell carcinoma (BCC) is the most common type of cancer in Europe, Australia and the U.S.A. After nasal skin cancer excision, especially if it is less than 1-2 cm in diameter, several surgical techniques can be used to reconstruct the lack of substance. In the management of our two patients we have chosen to utilize, instead, a well-known plastic surgery technique, Z-plasty, which is both easy to perform that effective to achieve excellent cosmetic results.

As shown by our two clinical cases, the use of Z-plasty for lack of substance of the nose tip and bridge can be extremely effective in terms of cosmetic results. In comparison with the other reconstructive techniques, in fact, it is very easy to perform and allows to avoid or minimize the distortion of the nasal tip and wing, to orient the incision along the skin tension lines and, finally, to replace the lack with very similar structures regarding color, thickness and tissue architecture to those removed.

KEY WORDS: Nose, Basal cell carcinoma, Skin cancer, z-plasty

Introduction

Basal cell carcinoma (BCC) is the most common type of cancer in Europe, Australia¹ and U.S.A.¹. A Canadian study reported that the lifetime incidence in the Caucasian population is 15%–28% in women and 17%–39% in men³. In the U.K. the true incidence is not known due to inconsistencies in cancer registrations⁴. BCC tends to occur in areas chronically exposed to sun, like nose's tip and bridge (around 74% of BCC

occur at the head and neck³). In fact UV exposure, along with genetic predisposition⁵, are the most common risk factors.

The lack of substance of nasal skin after excision of cutaneous neoplasia, especially for small lesion (1-2 cms in diameter), can be treated with several reconstructive surgical techniques. The most used are the healing by second intention, which does not ensure a good cosmetic outcome, the use of a skin graft⁶⁻⁷ from an adjacent area or the use of a skin flap⁸⁻¹⁰.

To treat our two patients we used, instead, the Z-plasty technique, easy to perform and effective to achieve excellent cosmetic results.

Two case reports

Two patients, a 64 year-old and a 78 year-old men, affected by basal cell carcinoma of the nasal skin, were treated in our department of plastic, reconstructive and aesthetic surgery of the Polyclinic Umberto I in Rome. In the first patient the neoplasia was located at the nose

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tip, measuring approximately 1 x 1 cm in diameter and appearing circular, with squamous-crusts surface, smooth margins, erythematous halo and not raised. The lesion was noted by the patient approximately 1 year before the first clinical examination and it slightly increased in volume with time.

The second patient had the tumor on the nose bridge. It measured approximately 2 x 1 cms in diameter and was characterized by an oval shape, squamous-crusts and ulcerated surface, smooth margins, erythematous halo, raised and easily bleeding. The lesion appeared about 2 years before the clinical examination and increased its volume with time.

Discussion

Small (< 1-2 cms) nasal bridge and tip defects, that occur after skin cancer excisions, can be repaired in several ways.

In example, the wound could granulate and close by second intention. This type of healing, however, takes approximately 6 weeks and the cosmetic outcome is unpredictable. Sometimes, in particular way when the wound is relatively deep, the resultant scar is depressed and quite noticeable.

Another option is to use a skin graft to close the defect to be corrected, taking it from an area adjacent to the

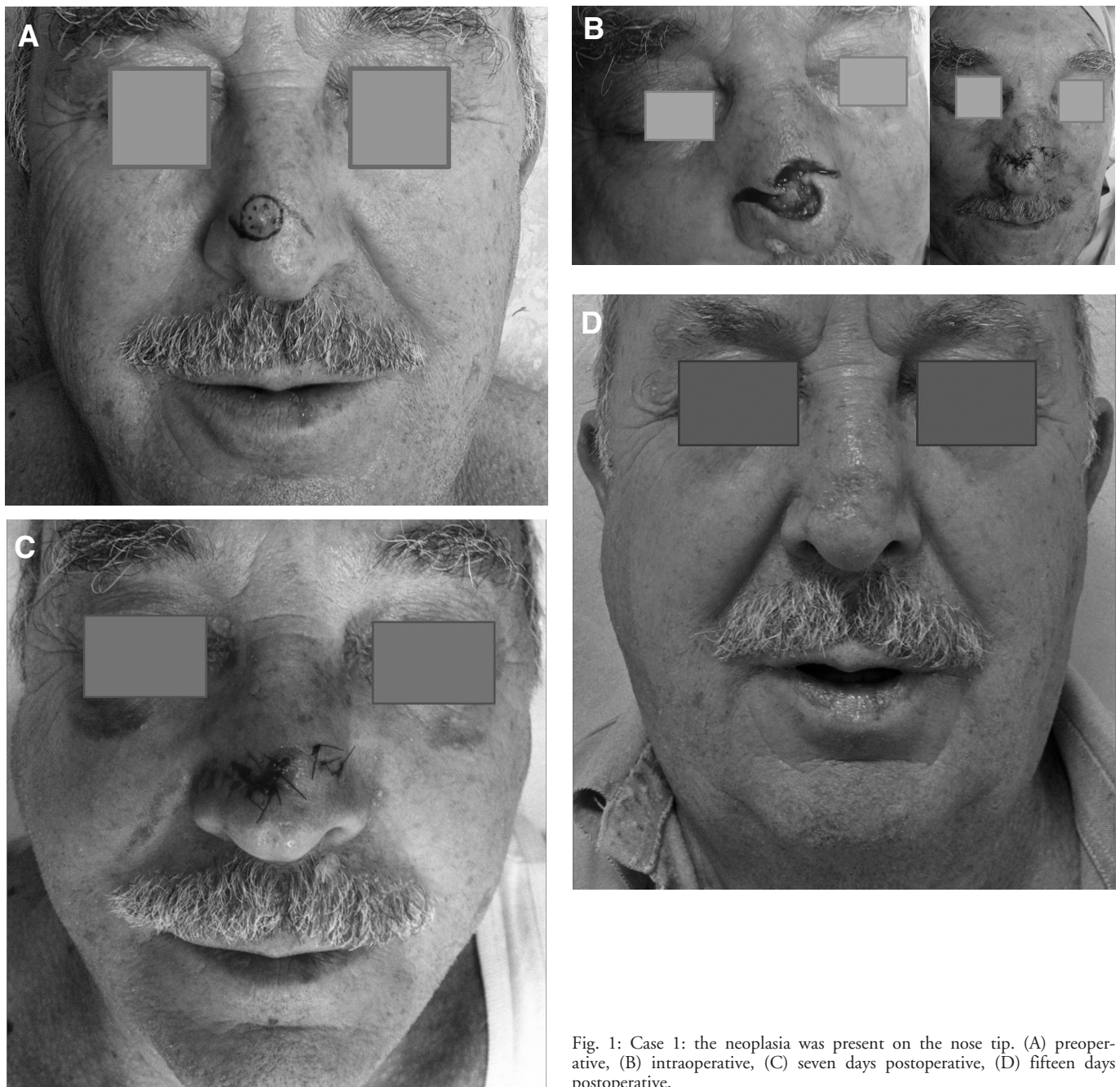


Fig. 1: Case 1: the neoplasia was present on the nose tip. (A) preoperative, (B) intraoperative, (C) seven days postoperative, (D) fifteen days postoperative.

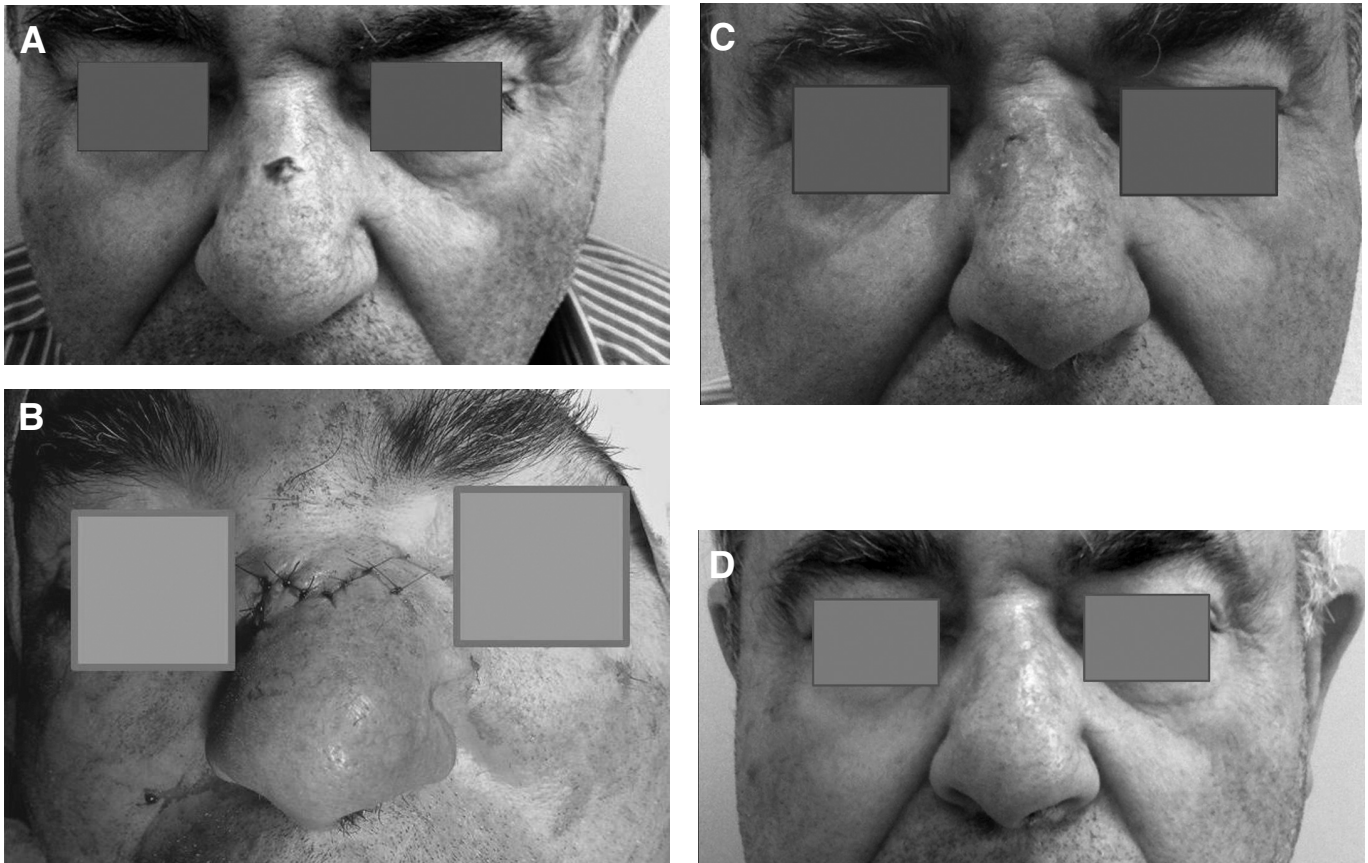


Fig. 2: Case 2: the neoplasia was on the nose bridge. (A) preoperative, (B) intraoperative, (C) ten days postoperative, (D) thirty days postoperative.

nose lesion⁶⁻⁷. With this technique there is often a bad aesthetic outcome due to a noticeable difference in color and texture of the two areas. Skin grafts may have the best results in large superficial defects as small repairs on the nasal tip or bridge are more noticeable than larger ones. The relative imperceptibility of larger grafts is caused by the fact that a complete or almost complete nasal aesthetic unit is replaced.

Finally, to use a skin flap is the optimal method to repair small, deep nasal lacks of substance. Local flaps that may be considered in this area include bilateral rotation flaps (the "Peng" flap)⁸, myocutaneous island pedicle flap⁹ or bilobed transposition flap¹⁰. The bilateral rotation flap would cause a nasal tip elevation and curvilinear lines along the sides of the nose. The myocutaneous island pedicle flap would also result in nasal tip elevation and is technically hard. The bilobed flap is associated, on the other hand, to several other nasal deformities such as an increase of the nasal wing and a shortening of the bridge. We chose to repair the lack of substance of the two patients with a Z-plasty: a well-known technique of plastic surgery, simple to perform, not very invasive and particularly useful to improve aesthetic and functional results of some scars. It can be used to rotate, elongate, extend or re-align old scars in respect to skin tension lines. In this technique the incisions are designed to create a Z-

shape with the limb aligned with the central part of the scar that needs lengthening or re-aligning. The traditional 60° angle Z-plasty will give a theoretical lengthening of the central limb of about 75%. Basing on the results to be obtained, single or multiple Z-plasties can be used. The lack of substance in the first patient had a circular shape whereas in the second one it had an ellipsoidal shape with the major axis on the nose bridge. Our choice to use the Z-plasty has been particularly useful to not cause a nasal pyramid distortion. Common aesthetic problems could have been an elevation of the nasal wing and, above all, a depression of the bridge (Saddle nose deformity). The Z-plasty also allowed us to replace the lack of substance with very similar structures in terms of color, thickness and tissue architecture to the ones removed. After one week, 15 days, one month and three months postoperative follow-up, patients showed an excellent cosmetic result, with little visible scars and no significant distortions of the nasal pyramid.

Conclusions

As shown by our two clinical cases, the use of Z-plasty for lacks of substance of the nose tip and bridge can be extremely effective in terms of cosmetic results. In

comparison with the other reconstructive techniques, in fact, it is very easy to perform and allows to avoid or minimize the distortion of the nasal tip and wing, to orient the incision along the skin tension lines and, finally, to replace the void with structures similar to the ones removed regarding color, thickness and tissue architecture.

Riassunto

Il carcinoma a cellule basali (BCC) è la tipologia di cancro più comune in Europa, Australia e Usa. Dopo l'escissione della neoplasia cutanea del naso, specialmente se essa ha un diametro inferiore a 1-2 cm, diverse sono le tecniche chirurgiche che possono essere usate per correggere la perdita di sostanza. Per il trattamento di due nostri pazienti, noi abbiamo scelto di utilizzare una nota tecnica chirurgica, la Plastica Z che è allo stesso tempo facile da eseguire e efficace per raggiungere un ottimo risultato estetico.

Come mostrano i nostri due casi clinici, l'uso della Plastica Z nelle perdite di sostanza della punta e del dorso del naso può essere estremamente efficace in termini estetici. Rapportata alle Altre tecniche chirurgiche, essa è infatti facile da eseguire, permette di evitare o minimizzare la distorsione della punta e delle ali del naso, di orientare l'incisione lungo le linee di tensione cutanee e, infine, di sostituire la perdita di sostanza con strutture cutanee molto simili per quanto riguarda il colore, lo spessore e la composizione, a quelle escisse.

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