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Snail flap as an option to reconstruct a nasal defect: a series of two cases

Retalho em caracol como uma opção de reconstrução de defeito nasal: uma série de dois casos

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ABSTRACT

Basal cell carcinoma (BCC) is the most common skin cancer. When located in the nasal region, reconstructing the defect resulting from its exeresis can become very challenging for the dermatological surgeon. The snail flap (SF) technique can be used to correct defects, mainly on the nose's lateral wall, but we use it in a modified way to close the nasal wing injury. In both cases, the results were satisfactory, cosmetically and functionally.

Keywords: Carcinoma basal cell; Surgical flaps; Nose

RESUMO

Carcinoma basocelular (CBC) é o câncer de pele mais comum. Quando localizado na região nasal, a reconstrução do defeito resultante de sua exérese pode se tornar muito desafiadora para o cirurgião dermatológico. A técnica do retalho em caracol (RC) pode ser utilizada para defeitos, principalmente na parede lateral do nariz, mas também a utilizamos de maneira modificada para fechamento de lesão da asa nasal. Nos dois casos, os resultados foram satisfatórios, tanto pela cosmética quanto pela funcionalidade.

Palavras-chave: Carcinoma basocelular; Retalhos cirúrgicos; Nariz

Case Report

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INTRODUCTION

Basal cell carcinoma (BCC) is the most common type of skin cancer.¹ Sometimes, complete excision of this type of tumor requires a flap to close the resulting defect, especially those larger than 10 mm.^{1,2} Reconstructions in the nasal region are challenging for dermatological surgeons due to their local characteristics, such as rigid structure and little mobility.³

The snail flap (SF) is a rotation flap in which part of the pedicle makes a folding movement over itself, resembling a snail shell. It is generally used to correct circular defects in the lower nasal wall, where the adjacent skin above and laterally to the defect is used to provide higher mobility to the flap.⁴

We report two cases who underwent reconstruction with SF after excision of nasal BCC: one patient had a lesion in the nose's lower lateral wall (where the flap is most often used), and the other presented a lesion in the nasal wing (where it's rarely performed). Both had a satisfactory aesthetic result. This study aims to exemplify the SF and demonstrate an option of the technique to correct defects in the nasal wing, with easy execution and a good level of patient satisfaction.

METHOD

Two patients with BCC in the nasal region were treated:

Patient 1: A 80-year-old man, skin phototype III, from Londrina (PR), presented a pearly plaque, 12 mm x 9 mm, on the lower left lateral dorsum of the nasal region, compatible with BCC by biopsy. The lesion was excised with safety margins of 5 mm. The resulting defect was 17 mm in the longest axis, and RC was chosen (Figures 1, 2, and 3).

Patient 2: A 73-year-old woman, skin phototype III, from Londrina (PR), presented an erythematous plaque, 6 mm x 5 mm, in the nasal wing to the left of the nasal region, compatible with BCC by biopsy. The lesion was excised with safety margins of 5 mm. The resulting defect was 11 mm in the longest axis, and RC was chosen (Figures 4, 5, and 6).

Description of the technique used for Patient 1: (Figures 1 and 2):

- A) Patient in horizontal supine position;
- B) Marking with methylene blue or surgical pen of the lesion with a 5 mm margin and flap incision si-

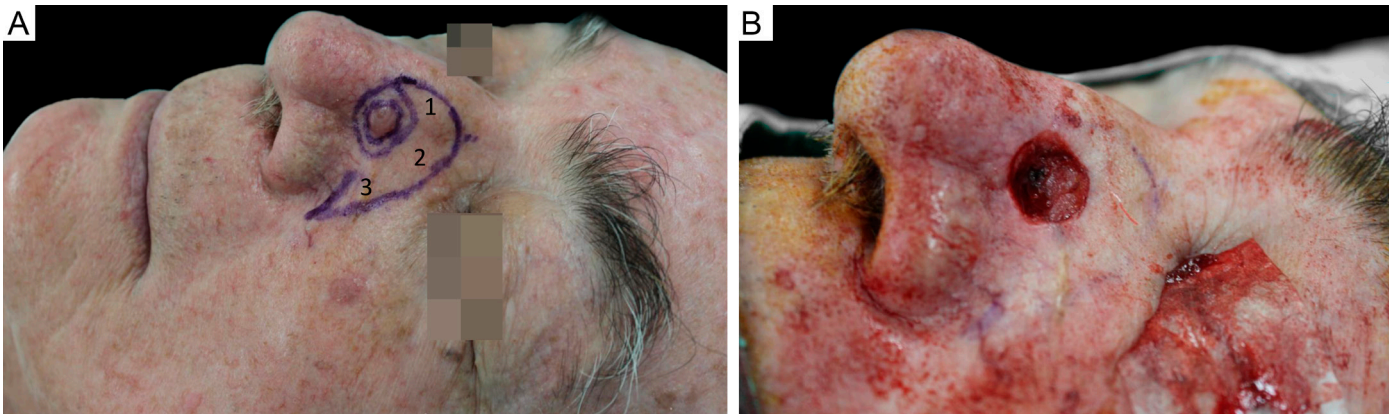


FIGURE 1: A - Marking the lesion with a 5 mm margin and flap incision sites. The three portions of the flap: (1) alar portion, (2) body, and (3) tail. **B** - Defect.

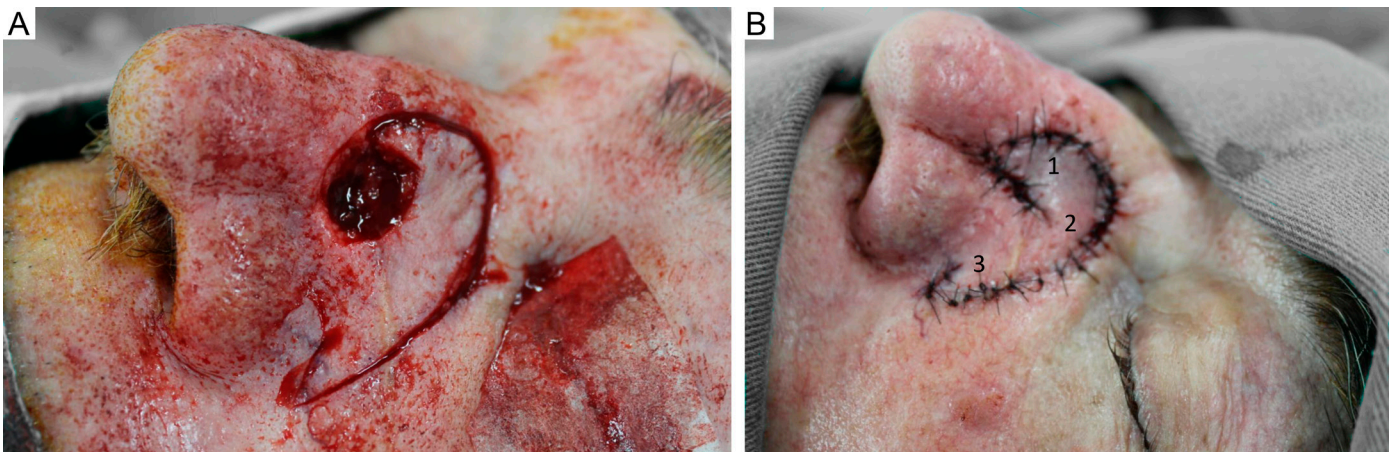


FIGURE 2: A - Flap incision. **2B**. Flap positioned and sutured.

tes: an arch starting from the defect in its upper portion and extending to the homolateral nasogenian groove. From there, a retrograde incision (back-cut) was performed. This flap had three portions: (1) alar, (2) body, and (3) the tail (Figure 1A).

- C) Antisepsis with topical 10% polyvinyl iodine;
- D) Placement of surgical drapes;
- E) Infiltrative anesthesia with 2% lidocaine and vasoconstrictor;
- F) Lesion incision using blade 15 and round block excision of the piece;
- G) Hemostasis;
- H) Flap incision, starting from the defect, making an arc in its upper position, passing through the alar region to the nasogenian groove (as previously marked). From that point, a retrograde incision was made;

- I) Flap detachment;
- J) Positioning the flap and other sutures with 5.0 mononylon, using single stitches. The alar portion folds over itself (with a “curled” aspect), resembling a snail shell (Figures 2A and 2B);
- K) Local cleaning with saline;
- L) Occlusive dressing.

Description of the technique used for Patient 2 (Figures 4, 5 6A):

The differences between the techniques of patients 1 and 2 are in items b, h, and j (the sequences described above: a, c, d, e, f, g, i, k, and l of the two techniques remained the same).

- B) Marking with methylene blue or surgical pen of the lesion with a 5 mm margin and incision sites of the flap: an arch starting from the lower region of the defect, outlining it in a spiral until the homolateral nasogenian groove in a retrograde incision

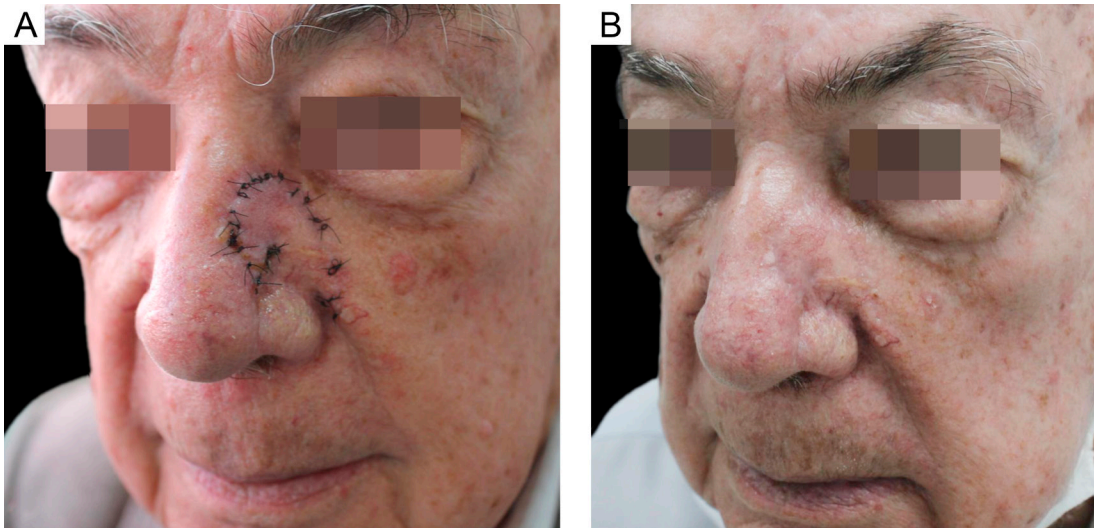


FIGURE 3: **A** - One month after the operation. **B** - Four months after the operation.

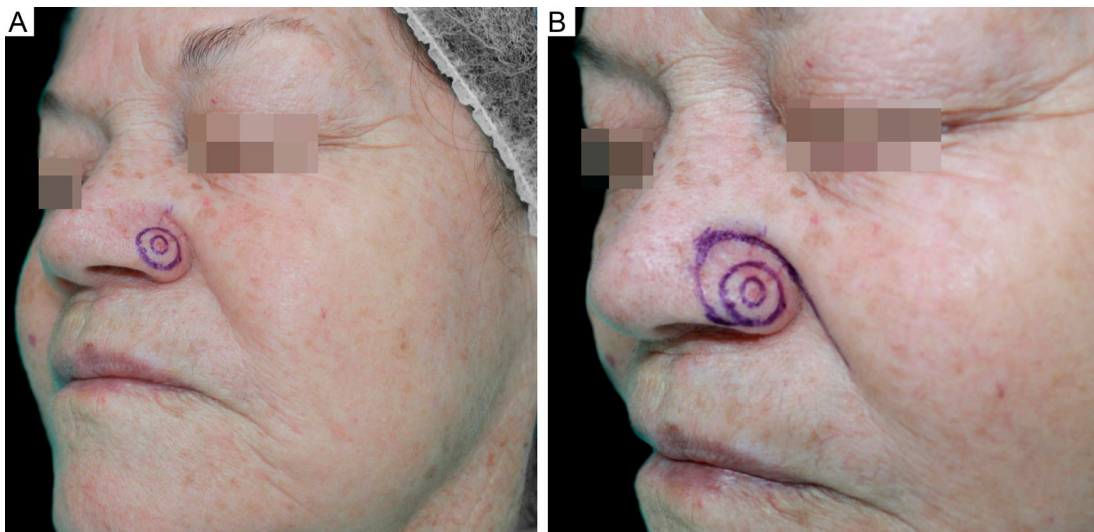


FIGURE 4: **A** - Patient 2. Marking the lesion with a 5 mm margin. **B** - Marking the flap incision sites.

(Figures 4 and 5);

H) Flap incision, starting from the lower region of the defect, making a spiral arch up to the nasogenian groove (as previously marked);

J) Positioning the flap and other sutures with 5.0 mononylon, using single stitches. The portion proximal to the defect folds over itself (with a “curled” aspect), resembling a snail shell (Figures 4B, 5B and 6A).

RESULTS

Patient 1: The patient evolved uneventfully in the first postoperative days. There was good healing and accommodation, with a satisfactory aesthetic result in the late postoperative period (Figure 3B).

Patient 2: The patient evolved uneventfully in the immediate postoperative period. There was good healing and accommodation, with a satisfactory aesthetic result in the late postoperative period (Figures 6A and 6B).

DISCUSSION

SF is a rotation flap technique, but it can also be considered an “island” flap as it maintains vascularization in its central region. It is used to correct circular defects in the lower nasal wall, and it is considered a good alternative for nasolabial interpolation since it can be performed in a single surgical time.⁴

FS is neither exclusive to the nasal wall nor restricted to the nose area. When applying a flap that folds over itself, resembling a snail shell, it is an SF. Christopoulos et al. described an SF

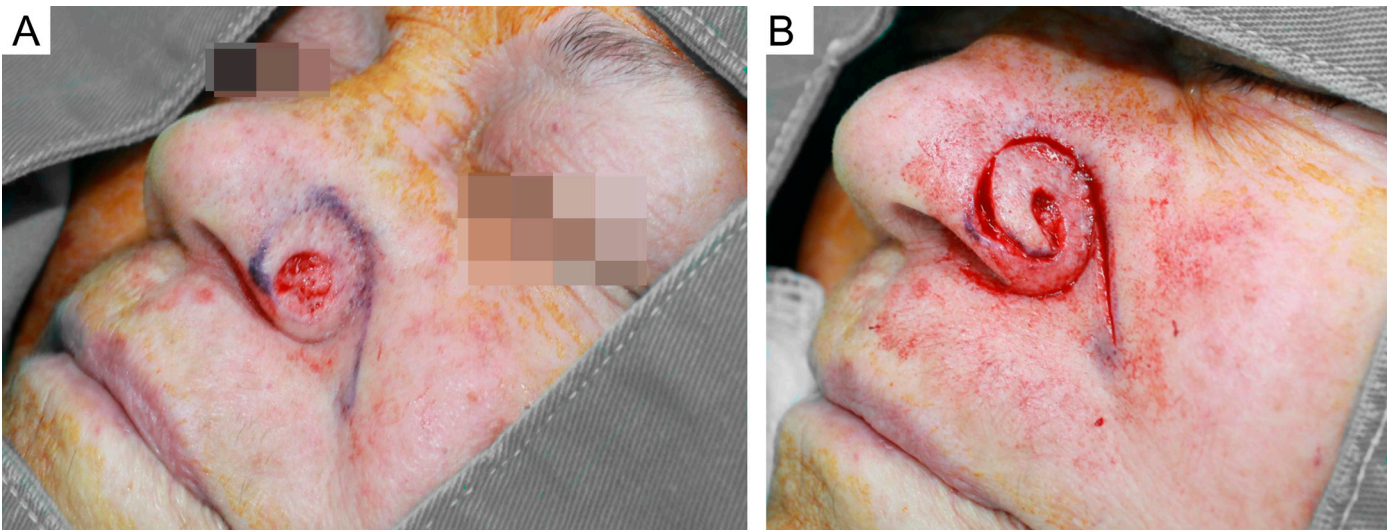


Figure 5: A - Defect. B - Flap incision

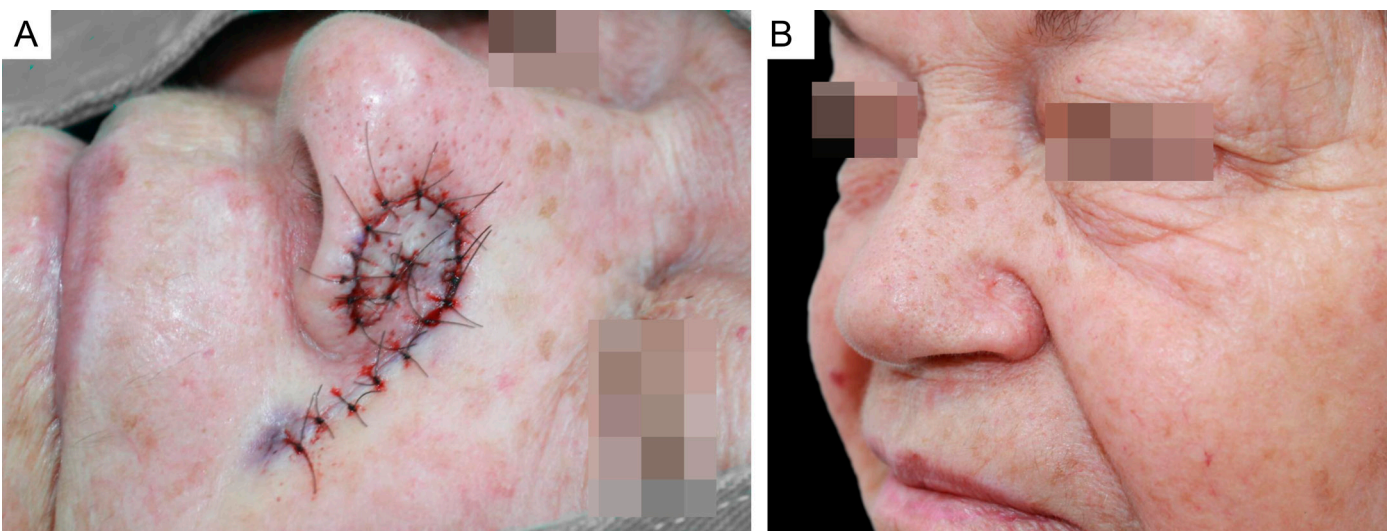


FIGURE 6: A - Flap positioned and sutured. B - Four months after the operation.

technique for reconstructing scalp defects,⁵ and Aksu *et al.* used it for the external auditory canal.⁶

In the case of patient 1, we performed the classic SF. We incised an arch that started from the upper region of the defect to the homolateral nasogenian sulcus, and, from that point on, we made a backward cut incision. This flap had three portions: (1) alar, (2) body, and (3) tail. The alar portion reconstructed the alar region of the defect and was the same size as that area. The flap's body and tail were the same size as the vertical dimension of the entire defect and covered the old position of the alar portion⁴ (Figures 1A and 2B).

In the case of patient 2, we applied the modified SF to the nasal wing defect. The beginning of the flap incision was in the lower region, making an arch almost parallel to the defect for better accommodation, so there was no lifting of the nasal wing. Not only the end of the flap fold over itself, but nearly half of it spiraled (Figures 5B and 6A).

The reason why SF is rarely used in the nasal wing region may be due to other existing techniques (grafting, advancement island flaps, transposition). In addition, if the SF is made in the same proportions and incisions as its classic model (that is, without being modified), it can cause local deformities, such as lifting the nasal ala.

In addition to the nasal wall (patient 1), another location where SF could be applied would be the nasal ala (patient 2). The technique for this last location differs from the first in that it uses practically half of the flap (not just the end) to fold over itself. For better results, the present authors advise not to perform surgical defects larger than 15 mm, due to the risk of alar nasal anatomical distortion.

CONCLUSION

SF can be a good option for resolving defects in the lateral wall and nasal wing regions. ●

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Approval of the final version of the manuscript; study design and planning; preparation and writing of the manuscript; data collection, analysis, and interpretation; active participation in research orientation; intellectual participation in propaedeutic and/or therapeutic conduct of studied cases; critical literature review; critical revision of the manuscript.

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