Case Report

Reconstruction of the nasal columella using bilateral nasolabial flaps: case report

Reconstrução da columela nasal com utilização de retalhos nasolabiais bilaterais: relato de caso

MARCELO ROSSETO[1,2*]
LUANA GRAZIELA BATISTA[1]
FRANCO DA SILVA MARTINEZ[2]
JOÃO PAULO SOUSA DA SILVA CONDURÚ[2]
CAROLINA MARIA STARTARI SACCO[3]
DANIEL NUNES[2]

■ ABSTRACT

Introduction: The columella is an important subunit of the nose, essential for nasal architecture and facial aesthetics. The total reconstruction of the nasal columella becomes a great challenge after repairing trauma, carcinomas, and necrosis in this region. There are descriptions in the literature of numerous reconstruction techniques using different flaps, such as a frontal region flap, an infraclavicular region flap, and a unilateral and bilateral nasolabial flap. **Case Report:** A total reconstruction of the nasal columella after resection of basal cell carcinoma (BCC) using a bilateral nasolabial flap is reported. **Conclusion:** The technique proved effective for correcting the complex defect after BCC resection, with technical ease for resolution and good aesthetic and functional results.

Keywords: Skin neoplasms; Carcinoma, basal cell; Surgical flaps; Nasal surgical procedures; Reconstructive surgical procedures.

■ RESUMO

Introdução: A columela é uma importante subunidade do nariz, sendo essencial para a arquitetura nasal e estética facial. A reconstrução total da columela nasal torna-se, portanto, um grande desafio após reparação de traumas, carcinomas e necroses nesta região. Há na literatura a descrição de inúmeras técnicas de reconstrução com uso de diferentes retalhos, como retalho da região frontal, retalho da região infraclavicular, retalho nasolabial unilateral e bilateral. **Relato de Caso:** Reporta-se uma reconstrução total da columela nasal pós-ressecção de carcinoma basocelular (CBC) utilizando retalho nasolabial bilateral. **Conclusão:** A técnica utilizada mostrou-se eficaz para correção do defeito complexo pós-ressecção de CBC, apresentando facilidade técnica para resolução e bom resultado estético-funcional.

Descritores: Neoplasias cutâneas; Carcinoma basocelular; Retalhos cirúrgicos; Procedimentos cirúrgicos nasais; Procedimentos cirúrgicos reconstrutivos.

Institution: Hospital de Câncer de Campo Grande Alfredo Abrão, Campo Grande, MS, Brasil.

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INTRODUCTION

The reconstruction of a total defect in the nasal columella is a challenge for surgeons, and it is possible to perform it in one or several stages[1,2]. Among the alternatives for repairing the nasal columella, we can opt for local flaps, including the bilateral nasolabial flap[3].

The literature reports numerous other reconstructions: the Indian flap[4], the "U"-shaped frontal muscle flap[2,5], and the unilateral nasolabial flap6 for repairing the nasal columella.

Seeking a surgical option after the excision of an extensive tumor (basal cell carcinoma - BCC) in the columella with oncological safety margins, we came across the bilateral nasolabial flap[3], the object of the present case report, which proved to be a non-aggressive solution, with rapid resolution and performed with local anesthesia and sedation.

[1] Hospital de Câncer de Campo Grande Alfredo Abrão, Campo Grande, MS, Brazil.
[2] Universidade Federal de Mato Grosso do Sul, Campo Grande, MS, Brazil.
[3] Universidade Estadual de Mato Grosso do Sul, Campo Grande, MS, Brazil.

OBJECTIVE

This work aims to describe the reconstruction of the nasal columella using the bilateral nasolabial flap[3] after a complex defect caused by resection of basal cell carcinoma.

CASE REPORT

JAS, white male, 50 years old. He had a sclerodermiform BCC in the region of the nasal columella, documented in a biopsy before surgical resection.

Subsequently, there was tumor resection with oncological criteria and anesthesia with modified Klein solution[7] (100ml of 0.9% saline solution, 20ml of 2% lidocaine without vasoconstrictor + 1 ampoule of adrenaline 1/1000 + 4ml of sodium bicarbonate at 8 .4%) and sedation with midazolam + fentanyl, performed by the anesthesiologist.

After tumor resection with oncological safety margins, a large defect ensued in the anterior part of the nose involving the nasal columella (Figure 1).

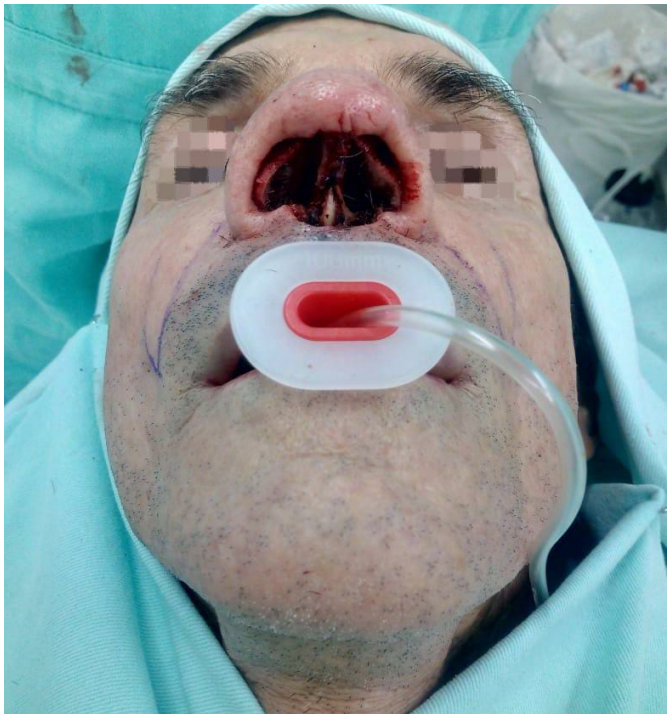

Figure 1. Aspect of the nasal tip after resection of basal cell carcinoma.

Bilateral demarcation of the nasolabial flaps was performed based on the anterior facial artery[3]. In a posteriori, the flap was elevated, transposition, and sutured to the new bed. The donor area was repaired with the advancement of local flaps (Figure 2).

After 2 months, the second procedure was performed, with the refinement of the flap (Figure 3).

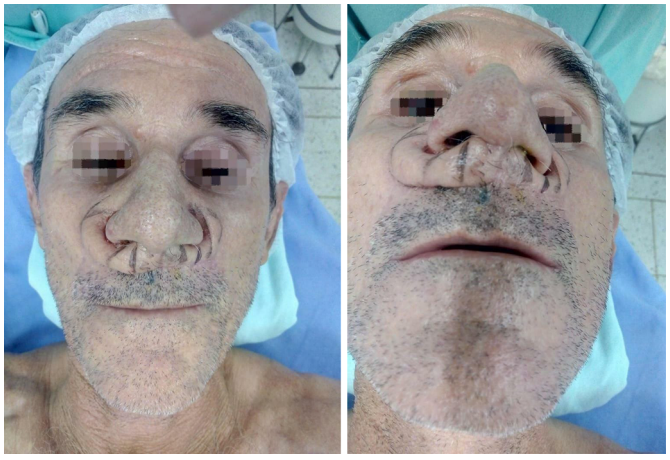

Figure 2. Surgical demarcation for first refining.

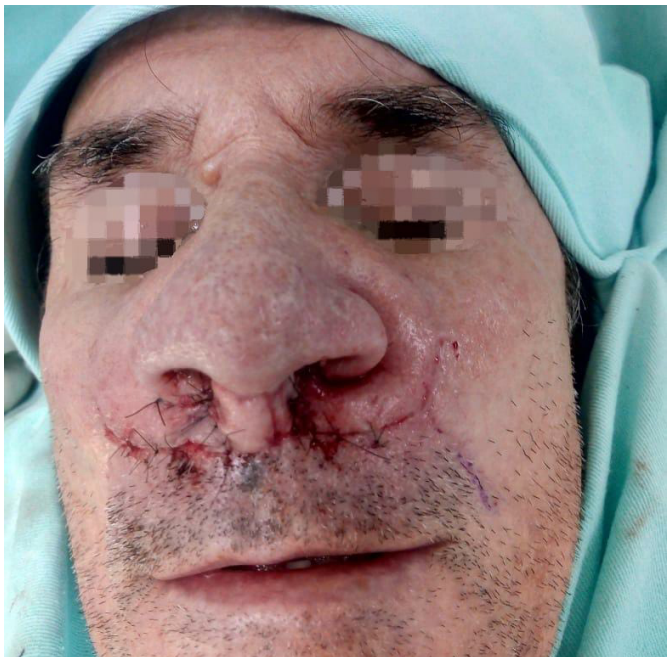

Figure 3. Postoperative refining.

Subsequently, there was a new refinement step in which we reached the final result (Figure 4).

DISCUSSION

Basal cell carcinoma is the most common non-melanoma skin tumor in our setting, with several subtypes, according to Terzian et al.8: nodular, ulcerative nodule, cicatricial plane, sclerodermiform, terebrant and pigmented. Of these subtypes, terebrant and sclerodermiform are more aggressive, the latter being the one with the highest number of recurrences. It mainly affects the face, predominantly affecting areas with greater sun exposure[9].

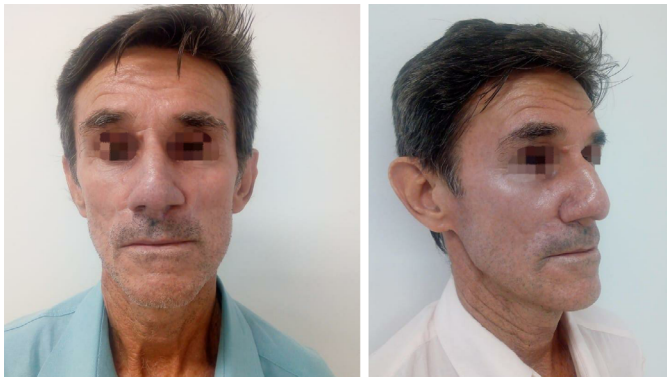

Figure 4. Final result.

Surgical treatment is preferred when the tumor has large extensions. In this case, local anesthesia with modified Klein solution[7] associated with sedation was recommended, providing adequate analgesia and vasoconstriction to perform tumor resection with good visibility and preparing flaps for its reconstruction, thus avoiding general anesthesia. , which offers greater risks for the patient and higher costs for the institution.

The literature review showed us numerous options for columellar reconstruction nose, from flaps from the frontal region[5] to flaps from the infraclavicular region[10]. However, the simplest and least aggressive ones are the unilateral nasolabial flap[6] and the bilateral nasolabial flap[3]. Paletta & Van Norman[11], in 1962, mentioned that when a nasal defect consists of total columellar loss, the unilateral nasolabial flap provides an excellent means of reconstruction.

Ingracio et al.[1], in 2014, advocated the use of the unilateral nasolabial flap for reconstruction of the superior pedicle columella as the appropriate choice, taking into account the maintenance of the oral orbicularis musculature.

Nonetheless, the option for the bilateral nasolabial flap concerning the unilateral one was due to the greater amount of tissue for repairing an extensive defect, its positioning to simulate the columella, and greater versatility in covering a large area to be reconstructed[3].

Kaplan[12,] in 1972, reported this same flap as an island of skin in the nasolabial fold region, based on the facial artery with a pedicle inferior to the height of the ala and nasal dorsum. However, demarcation with a Doppler is recommended for its rotation. We did not use this option due to the execution of the same flap with the upper pedicle removed close to the lip, seeking greater skin and a lower risk of hypertrophic scars.

Lewis[13], in 1990, demonstrated that the columella reconstruction could be performed with a bilateral lip flap, using mucosa and muscle from the intraoral region of the upper lip. We did not use this technique due to the insufficient amount of tissue that it would provide for the reconstruction.

Mendelson et al.[10], in 1979, mentioned a tubular flap removed from the cervical region in four stages for the reconstruction of this nasal unit. This type of reconstruction was not performed due to the need for four or more surgical procedures. Furthermore, the scar in the donor area (infraclavicular region) becomes extensive and has a high chance of generating a hypertrophic scar.

Other flaps for columellar reconstruction were not advocated (Orticochea[14] and Millard[5]) due to the need for several surgical times and, sometimes, causing partial occlusion of one eye.

CONCLUSION

The bilateral nasolabial flap, used for the columella reconstruction, proved viable, easy to perform, and with good perfusion. Furthermore, it achieved a satisfactory columellar appearance and practically imperceptible incisions in the donor area. However, it had the disadvantage of requiring two surgical refinements to present a satisfactory aesthetic result.

COLLABORATIONS

MR	Conception and design study, Final manuscript approval, Methodology, Realization of operations and/or trials, Supervision.
LGB	Realization of operations and/or trials, Supervision.
FSM	Final manuscript approval, Visualization, Writing - Original Draft Preparation, Writing - Review & Editing.
JPSC	Visualization, Writing - Original Draft Preparation, Writing - Review & Editing.
CMSS	Writing - Original Draft Preparation, Writing - Review & Editing.
DN	Realization of operations and/or trials, Supervision.

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***Corresponding author:** **Marcelo Rosseto**
Rua Raul Pires Barbosa, 1477, Chácara Cachoeira, Campo Grande, MS, Brazil
Zip code: 79040-150
E-mail: marcelorosseto@yahoo.com.br