International Surgery Journal
Gómez DEG. Int Surg J. 2026 Nov;13(11):2266-2270
https://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902

DOI: https://dx.doi.org/10.18203/2349-2902.isj20263704

Case Report

Recurrent basal cell carcinoma of the nasal tip: from dermatological assessment to resection and reconstruction with a local flap

Diana E. Gutiérrez Gómez*

Hospital General de Zona No. 5 (HGZ 5), Nogales, Sonora, Mexico

Received: 02 October 2026
Revised: 05 October 2026
Accepted: 07 October 2026

***Correspondence:**
Dr. Diana E. Gutiérrez Gómez,
E-mail: dianagugo19@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Basal cell carcinoma (BCC) is the most common cutaneous malignancy, and the nasal tip is among the highest-risk sites for recurrence because of its complex three-dimensional anatomy and limited local tissue laxity. Tumor persistence after resection with positive margins mandates oncologic re-excision and individualized reconstructive planning. A 62-year-old woman with Fitzpatrick skin type II and a history of nasal-tip BCC excision with positive surgical margins presented with a 2.5 cm pearly, slow-growing neoformation arising over the previous scar, with a dermoscopic pattern consistent with recurrence. She was referred to plastic and reconstructive surgery, where a paramedian forehead flap was initially planned. Intraoperatively, after resection of a 2.8 × 2.2 cm defect, the surgical team opted instead for a local Rieger-type (rotation-advancement) flap with extension, achieving a tension-free, single-stage closure without the need for a regional flap. Definitive histopathology reported an infiltrative BCC with tumor-free margins. This case highlights the importance of coordinated care between dermatology and plastic surgery in managing recurrent nasal-tip BCC, and the value of intraoperative reassessment of the reconstructive plan according to the reconstructive-ladder principle, favoring the least complex technique capable of achieving a functional and aesthetically satisfactory result.

Keywords: Basal cell carcinoma, Recurrence, Nasal tip, Rotation-advancement flap, Paramedian forehead flap, Nasal reconstruction, Dermoscopy

INTRODUCTION

Basal cell carcinoma (BCC) is the most common malignancy in humans and predominantly affects fair-skinned individuals, with a marked predilection for photoexposed areas of the head and neck.[1,2] The nose, and in particular the nasal tip, is considered a "high-risk" (H) zone under standard recurrence-risk classifications, owing to the thinness of the overlying skin, the proximity of the underlying cartilage and bone, and the scarcity of lax tissue available for primary closure.[2,3] In a single-center series of 343 nasal BCCs treated by standard excision, 16.9% of tumors were incompletely excised, and in a cohort of 116 BCCs reconstructed with flaps or grafts every recurrence arose in the nasal region.[4,5]

Surgical excision with clear margins remains the treatment of choice for head-and-neck BCC because of its high cure rate and low local recurrence.[2,3] However, when histopathology reports positive surgical margins, the risk of tumor persistence and recurrence rises substantially, and oncologic re-excision with margin widening is indicated.[2,6] Recurrence has been reported in 26% to 41% of incompletely excised BCCs and, in nasal BCC specifically, in 24.1% of incompletely excised tumors compared with 6.3% of those excised radically.[2,4]

Reconstruction of the resulting defect should follow the "reconstructive-ladder" principle, using the least complex technique capable of restoring nasal form and function with a favorable aesthetic outcome.[7-9]

The dorsal nasal flap described by Rieger and the paramedian forehead flap are both well-established options for nasal-tip reconstruction.[10-12] However, experience with recurrent or incompletely excised BCC of the nasal tip managed by re-excision and flap reconstruction has mostly been published as isolated case reports.[13,14] We report the case of a patient with recurrent nasal-tip BCC, from initial clinical-dermoscopic identification through surgical resection and reconstruction, emphasizing the role of intraoperative reassessment in selecting the definitive reconstructive technique.

CASE REPORT

Initial dermatological assessment

A 62-year-old woman, Fitzpatrick skin type II, presented with a history of prior resection of a basal cell carcinoma of the nasal tip, whose histopathology had reported positive surgical margins. She sought dermatological follow-up for a neoformation, approximately 2.5 cm in its greatest diameter, arising over the previous resection scar. The lesion had grown slowly over 6–8 months, had poorly defined borders, and showed a pearly, nacreous coloration contrasting with the adjacent skin, with fine telangiectasias on its surface, without frank ulceration or spontaneous bleeding.

Dermoscopy demonstrated arborizing vascular structures, shiny white areas, and blue-gray ovoid nests a pattern consistent with recurrent basal cell carcinoma over a prior surgical scar.[15,16] No cervical lymphadenopathy was palpable. Based on these findings, dermatology referred the patient to plastic and reconstructive surgery for definitive surgical evaluation and management.

Preoperative assessment

The preoperative diagnosis was basal cell carcinoma of the nasal tip with a history of a positive margin at prior resection. The procedure was scheduled as elective surgery, with the anesthetic technique to be determined by anesthesiology. Preoperative internal medicine evaluation classified the patient as ASA II, Goldman class I, with a laboratory profile within acceptable limits for the procedure (glucose 104 mg/dl, BUN 29.71, urea 63.58, creatinine 0.87, Na 137.36, K 4.82, Cl 103.71, Hb 14.6 g/dl, Hct 44.3%, WBC 8 × 10^3/µl, neutrophils 4.87, platelets 337 × 10^3/µl, PT 10.1 s, aPTT 32.7 s, INR 0.92); no blood products were required.

Because surgical excision with clear margins remains the treatment of choice for head-and-neck BCC particularly in high-risk sites such as the nose and given the history of positive margins, oncologic re-excision was indicated.[2,3] A paramedian forehead flap was initially planned for reconstruction of the anticipated defect, as this is the reference technique for nasal-tip defects owing to its excellent axial vascularity, favorable color and texture match, and capacity to restore complex three-dimensional coverage with good functional and aesthetic results.[12,17] The patient was counseled on the possible complications of the procedure, including pain, bleeding, hematoma, seroma, surgical-site infection, dehiscence, neurovascular injury, partial or total flap necrosis, recurrence, and the possible need for reintervention.



Figure 1: Preoperative marking of the tumor recurrence at the nasal tip. A double circular line delineates the pearly-nacreous neoformation over the prior resection scar, together with a peripheral safety margin defining the planned oncologic resection border prior to entering the operating room.

Surgical technique

After standard asepsis and antisepsis, the lesion was infiltrated at the nasal tip and dorsum. Dissection of the lesion produced a resulting defect of approximately 2.8 × 2.2 cm. A Rieger-type advancement flap was initially designed; during its dissection and advancement, excessive tension was identified, and the decision was made to extend the flap, achieving a final tension-free configuration.[10,11] Closure was performed with intradermal 4-0 Vicryl sutures and inverted cardinal sutures, complemented by cutaneous closure with 5-0 nylon sutures. The patient completed the surgical procedure in stable condition and was transferred to the general ward.

Operative findings confirmed a nasal-tip lesion measuring 2.8 × 2.2 cm. The wound was classified as clean, with no implant or drain placement, and was fully closed at the end of the procedure. Antimicrobial prophylaxis was administered with amoxicillin-clavulanate. Sponge, gauze, and instrument counts were complete and correct; intraoperative frozen-section examination was not requested.

Notably, the paramedian forehead flap originally planned was not required: the defect was resolved in a single surgical stage using the local Rieger-type advancement flap with extension, thereby avoiding the morbidity associated with a regional flap and the need for an additional donor site.

Postoperative course

Definitive histopathological examination of the surgical specimen reported an infiltrative basal cell carcinoma with tumor-free surgical margins. At four weeks of follow-up, the patient showed appropriate scar evolution, with intact cutaneous closure along the entire advancement flap, from the nasal dorsum to the tip, without evidence of flap necrosis, wound dehiscence, or clinical signs of local recurrence. The scar was in the early remodeling phase, with mild residual erythema and good symmetry of the nasal tip and dorsum.



Figure 2: Postoperative result at four weeks after reconstruction with an extended local Rieger-type advancement flap. A continuous linear scar is seen from the dorsum to the nasal tip, with tension-free cutaneous closure, adequate projection and symmetry of the nasal tip, residual erythema typical of the early remodeling phase, and absence of flap necrosis, dehiscence, or clinical signs of recurrence.

DISCUSSION

This case exemplifies the interdisciplinary care pathway for recurrent basal cell carcinoma of the nasal tip, and each of its features can be compared with previously published experience. Our patient was a 62-year-old woman with Fitzpatrick skin type II, a profile consistent with the predominance of BCC in fair-skinned individuals and with the female majority (73.5%) reported in a series of 343 nasal BCCs.[1,4] In that series the nasal tip was the least frequently affected subunit (11.7%), whereas in patients reconstructed with flaps or grafts the nasal region was significantly associated with recurrence, all recurrences being nasal.[4,5] A closely comparable case was reported in this journal by Ochoa Meza et al, a 64-year-old woman with nodular BCC of the nasal tip and an involved lateral margin, who was likewise managed by wide excision with clear margins and a frontonasal flap.[14]

The key antecedent in our patient was a previous excision with positive margins. Incomplete excision occurred in 16.9% of nasal BCCs in the series cited above, in which recurrence reached 24.1% after incomplete excision compared with 6.3% after radical excision, and European guidelines report recurrence in 26% to 41% of incompletely excised tumors.[2,4] Robinson and Fisher, in 994 patients with BCC that recurred after incomplete resection, found that recognition of the recurrence was delayed in tumors of the nose and in those previously reconstructed with flaps, and concluded that treating residual tumor at the margin in the immediate postoperative period may avoid more extensive surgery.[6] Our patient presented once a 2.5-cm recurrence had become clinically evident over the scar, and her re-excision is in keeping with the guideline recommendation that incompletely excised lesions be re-excised.[2]

The initial suspicion arose in the dermatology clinic. The pearly neoformation with telangiectasias showed arborizing vessels, shiny white areas, and blue-gray ovoid nests on dermoscopy, which are among the established dermoscopic criteria of BCC.[15,16] In a meta-analysis of 17 studies, dermoscopy reached a pooled sensitivity of 91.2% and a specificity of 95% for the diagnosis of BCC.[18] Dermoscopy also provides information on the extension of the tumor beyond its clinically visible margins, a property that we consider particularly useful when the lesion arises over a previous surgical scar, as in our patient.[15]

Definitive histopathology showed an infiltrative BCC. Infiltrative, micronodular, morpheaform, and basosquamous tumors are the aggressive growth patterns, in contrast to the nodular and superficial subtypes.[1,2] In the series of 343 nasal BCCs the infiltrative subtype was the most prevalent (70.8%), and in the cohort of Kondo et al the aggressive micronodular and sclerodermiform types were significantly associated with recurrence.[4,5] Robinson and Fisher likewise found that recurrence was

recognized later in tumors with aggressive or fibrosing histology.[6] The infiltrative pattern in our patient is therefore consistent both with her nasal location and with her history of incomplete excision and recurrence.

With regard to oncologic treatment, the tumor was recurrent and located on the nose, features that identify a BCC at high risk of further recurrence.[2,3] For such lesions, guidelines recommend a safety margin of at least 5 mm, a systematic review suggests a 6-mm margin or micrographic surgery for recurrent lesions, and micrographically controlled surgery is to be offered where available.[2,3] In the randomized trial of van Loo et al the 10-year probability of recurrence of recurrent facial BCC was 3.9% after Mohs micrographic surgery and 13.5% after standard excision.[19] Our patient was treated by standard excision with immediate reconstruction, an approach that in a series of 318 nasal BCCs yielded a recurrence rate of 3.8% at a median follow-up of 7.5 years, although 16% of tumors required re-excision.[20] In our patient the definitive histopathology confirmed tumor-free margins. Even so, margin control relied on conventional histopathology rather than on frozen sections or micrographic surgery, and in the cohort of Kondo et al. the nasal recurrences occurred despite margins that were uninvolved at the time of surgery, which reinforces the need for prolonged surveillance.[5]

From a reconstructive standpoint, the 2.8 × 2.2 cm defect lay at the upper limit of what local flaps are expected to resolve. The paramedian forehead flap is regarded as the standard for larger or complex nasal defects because of its axial vascularity and capacity for three-dimensional restitution; it was the technique chosen by Willyanto and Huda for recurrent BCC of the nose and by Kim et al in 63 patients with large facial defects, without flap loss.[12,13,17] Its drawbacks are a staged procedure and a forehead donor site, and still more complex staged options, such as the prelaminated temporoparietal osteofascial flap, are reserved for extensive full-thickness defects involving several subunits.[12,21] The dorsal nasal flap described by Rieger, later revisited as an axial frontonasal flap by Marchac and Toth, is classically indicated for defects of the lower third of the nose of up to approximately 2 cm.[10,11,22] Subsequent series have nevertheless extended its use: Decusati and Rinaldi closed defects of 1.0 to 3.0 cm in six patients, and Aldosari reconstructed nasal-tip defects of 1.4 to 2.5 cm in 15 patients, in both series without flap necrosis.[22,23] Elongated dorsal nasal flaps have been described for large defects, and Cavaliere et al reported survival of all flaps in 22 patients treated with an extended rotation flap for defects of the tip and ala.[24,25] Our defect is therefore comparable with the largest ones in these series and, in line with these extended designs, lengthening the flap was the maneuver that eliminated tension. Andresen and Scheufler similarly resolved a complex nasal-tip defect with a modified frontonasal flap, although with adjunct cartilage grafting, which was not required in our patient.[26]

The intraoperative reassessment of the reconstructive plan, guided by the actual size of the defect after oncologic resection, is consistent with the reconstructive-ladder principle of employing the least complex technique capable of achieving adequate functional and aesthetic closure, and with approaches to nasal reconstruction that weigh defect size, location, and available local tissue rather than applying a single technique.[7-9] This flexibility in decision-making, without compromising oncologic radicality, is particularly relevant in intermediate-sized nasal-tip defects, where both the dorsal nasal flap and the paramedian forehead flap are valid options and the final choice should be individualized according to intraoperative findings. At four weeks our patient showed complete flap survival, intact closure, and good symmetry of the nasal tip and dorsum, with no dehiscence or infection. This agrees with the absence of necrosis, hematoma, and infection reported for dorsal nasal and frontonasal flaps, whose results were rated as good or excellent by patients and surgeons, and with the favorable scar-assessment scores obtained with extended rotation flaps.[22,23,25] No validated scar or satisfaction scale was applied in our case, which limits direct comparison with those series.

The main limitations of this report are those inherent to a single case, the absence of intraoperative margin control, and the short follow-up. Recurrence of nasal BCC may appear late, with a median time to recurrence of 4.1 years in the series of Veija et al and long-term recurrence data have long supported prolonged follow-up.[20,27] Because recurrences beneath a flap may also be recognized later, and in accordance with guidelines that recommend follow-up at 3- to 12-month intervals according to risk, close clinical and dermoscopic surveillance is warranted in our patient.[2,6] Within these limits, the case adds to the existing literature by documenting that a recurrent nasal-tip BCC leaving a defect of almost 3 cm, for which a paramedian forehead flap had been planned, can be reconstructed in a single stage with an extended Rieger-type flap when tension-free closure is confirmed intraoperatively.

CONCLUSION

Close collaboration between dermatology and plastic and reconstructive surgery is central to the management of recurrent nasal-tip BCC: early clinical-dermoscopic recognition enables timely referral, while flexibility of the intraoperative reconstructive plan from a paramedian forehead flap to a local Rieger-type advancement flap allowed the defect to be resolved in a single surgical stage with lower morbidity. Close dermatological follow-up is recommended in the medium and long term, given the history of previously positive margins.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Cameron MC, Lee E, Hibler BP, Barker CA, Mori S, Cordova M, et al. Basal cell carcinoma: epidemiology; pathophysiology; clinical and histological subtypes; and disease associations. J Am Acad Dermatol. 2019;80(2):303-17.
2. Peris K, Fargnoli MC, Kaufmann R, Arenberger P, Bastholt L, Basset Seguin N, et al. European consensus-based interdisciplinary guideline for diagnosis and treatment of basal cell carcinoma-update 2023. Eur J Cancer. 2023;192:113254.
3. Quazi SJ, Aslam N, Saleem H, Rahman J, Khan S. Surgical margin of excision in basal cell carcinoma: a systematic review of literature. Cureus. 2020;12(7):e9211.
4. Baltrušaitytė K, Zacharevskij E, Pilipaitytė L, Braziulis K, Petkevičius A. Assessment of standard surgical excision efficacy and analysis of recurrence-associated factors in 343 cases of nasal basal cell carcinoma: a single-center retrospective study. Healthcare (Basel). 2024;12(5):513.
5. Kondo RN, Gon AS, Pontello Junior R. Recurrence rate of basal cell carcinoma in patients submitted to skin flaps or grafts. An Bras Dermatol. 2019;94(4):442-5.
6. Robinson JK, Fisher SG. Recurrent basal cell carcinoma after incomplete resection. Arch Dermatol. 2000;136(11):1318-24.
7. Janis JE, Kwon RK, Attinger CE. The new reconstructive ladder: modifications to the traditional model. Plast Reconstr Surg. 2011;127(Suppl 1):205S-212S.
8. Burget GC, Menick FJ. The subunit principle in nasal reconstruction. Plast Reconstr Surg. 1985;76(2):239-47.
9. Rohrich RJ, Griffin JR, Ansari M, Beran SJ, Potter JK. Nasal reconstruction—beyond aesthetic subunits: a 15-year review of 1334 cases. Plast Reconstr Surg. 2004;114(6):1405-16.
10. Rieger RA. A local flap for repair of the nasal tip. Plast Reconstr Surg. 1967;40(2):147-9.
11. Marchac D, Toth B. The axial frontonasal flap revisited. Plast Reconstr Surg. 1985;76(5):686-94.
12. Menick FJ. Nasal reconstruction with a forehead flap. Clin Plast Surg. 2009;36(3):443-59.
13. Willyanto NA, Huda S. Surgical excision with paramedian forehead flap reconstruction in recurrent basal cell carcinoma of the nose. Intisari Sains Medis. 2021;12(1):411-13.
14. Ochoa Meza LF, Galvan Ruiz VG, Garay Hernandez CA, Adolphs Orjuela HF, Dave R, McCall IP, et al. Frontonasal paramedian flap, a Marchac flap variation used for nasal tip reconstruction after basal cells carcinoma, a suitable option for large defects: case report. Int Surg J. 2026;13(5):804-8.
15. Lallas A, Apalla Z, Argenziano G, Longo C, Moscarella E, Specchio F, et al. The dermatoscopic universe of basal cell carcinoma. Dermatol Pract Concept. 2014;4(3):11-24.
16. Marghoob AA, Malvehy J, Braun RP, editors. An Atlas of Dermoscopy. 2nd ed. Boca Raton: CRC Press; 2012.
17. Kim RS, Yi C, Kim HS, Jeong HY, Bae YC. Reconstruction of large facial defects using a combination of forehead flap and other procedures. Arch Craniofac Surg. 2022;23(1):17-22.
18. Reiter O, Mimouni I, Gdalevich M, Marghoob AA, Levi A, Hodak E, et al. The diagnostic accuracy of dermoscopy for basal cell carcinoma: a systematic review and meta-analysis. J Am Acad Dermatol. 2019;80(5):1380-8.
19. van Loo E, Mosterd K, Krekels GAM, Roozeboom MH, Ostertag JU, Dirksen CD, et al. Surgical excision versus Mohs' micrographic surgery for basal cell carcinoma of the face: a randomised clinical trial with 10 year follow-up. Eur J Cancer. 2014;50(17):3011-20.
20. Veija T, Koivunen V, Mäkelä L, Koljonen V. Immediate local flap versus skin graft reconstruction after standard excision of basal cell carcinoma of the nose. JPRAS Open. 2025;44:364-74.
21. Aldana CA, Ramirez PD, Sandoval JH, Avalos OJ, Peña AF, Berra PH, et al. Prelaminated temporoparietal osteofascial flap: a novel nasal reconstruction technique. Plast Reconstr Surg Glob Open. 2021;9(12):e3977.
22. Decusati FL, Rinaldi AE. Reconstruction of nasal defects using the Rieger flap. Rev Bras Cir Plást. 2020;35(2):149-53.
23. Aldosari BF. The axial frontonasal flap for nasal tip defect: a single centre experience. Cureus. 2019;11(10):e5892.
24. Redondo P, Bernad I, Moreno E, Ivars M. Elongated dorsal nasal flap to reconstruct large defects of the nose. Dermatol Surg. 2017;43(8):1036-41.
25. Cavaliere A, Maisto B, Zaporojan T, Giordano L, Sorbino L, Zaffiro A, et al. Extended rotation flap for reconstruction of partial thickness defects of the tip and nasal ala region: in search of better aesthetic results. JPRAS Open. 2021;29:82-8.
26. Andresen JR, Scheufler O. Complex nasal reconstruction for skin cancer and posttraumatic deformity using a modified frontonasal flap: case report. Int J Surg Case Rep. 2021;83:105944.
27. Rowe DE, Carroll RJ, Day CL Jr. Long-term recurrence rates in previously untreated (primary) basal cell carcinoma: implications for patient follow-up. J Dermatol Surg Oncol. 1989;15(3):315-28.

Cite this article as: Gómez DEG. Recurrent basal cell carcinoma of the nasal tip: from dermatological assessment to resection and reconstruction with a local flap. Int Surg J 2026;13:2266-70.