

International Journal of Health Science

Acceptance date: 16/05/2025

COMPLEX NASOPALPEBRAL RECONSTRUCTION AFTER EXCISION OF BASAL CELL CARCINOMA

Leandro Balestrin

Joao Guilherme Novis de Souza Avellar



All content in this magazine is licensed under the Creative Commons Attribution 4.0 International License (CC BY 4.0).

Abstract: This report presents a case of basal cell carcinoma in the nasopalpebral region of a 65-year-old man, treated with surgery at the Federal Hospital of Rio de Janeiro in 2025. The patient had lesions on the lateral wall of the nose and on the lower eyelid, which were removed with free margins after biopsy. Different surgical flaps were used to reconstruct the affected areas, including the Imre flap on the eyelid and a rotation flap for the nose. The surgery was successful, resulting in satisfactory aesthetic and functional healing, demonstrating the importance of an individualized assessment in the choice of reconstruction technique. The study reinforces that nasal and eyelid reconstruction after tumor removal requires specific techniques adapted to each case, with the Imre flap being an effective option for the lower eyelid.

INTRODUCTION

Non-melanoma skin cancer, which includes basal cell carcinoma and squamous cell carcinoma, is the most common type of cancer in the world, with more than 4 million cases diagnosed annually, according to the World Health Organization (WHO). These types of cancer are especially common on the face, which can lead to major deformities and social stigma for patients. The prevalence is higher in regions with high sun exposure, and the incidence has increased due to the ageing of the population and inadequate sun protection habits.

Basal cell carcinoma is the most common and rarely metastasizes, while squamous cell carcinoma, although less frequent, has a greater invasive potential. Individuals with fair skin, a history of sunburn and immunocompromised individuals are among the risk groups.

Although mortality related to these cancers is low, the aesthetic and emotional implications are significant. The gold standard treatment is surgery, which aims not only to eradicate the tumor, but also to preserve the skin.

SKIN FUNCTION AND AESTHETICS.

In this case report, we will discuss these particularities, specifically basal cell carcinoma in the nasopalpebral region.

METHOD

This is a retrospective, descriptive clinical and surgical case report, based on medical records and the experience of the team responsible for the treatment, as well as a literature review of similar cases and their outcomes.

Medical records were collected from a federal hospital in Rio de Janeiro in 2025.

CASE REPORT

A 65-year-old white male smoker with lesions on the left lateral nasal wall and juxta-ciliary region of the left lower eyelid was admitted to the institution with a biopsy of basal cell carcinomas. He reported that he had noticed them for years, but they had increased significantly, leading him to seek specialized medical care.

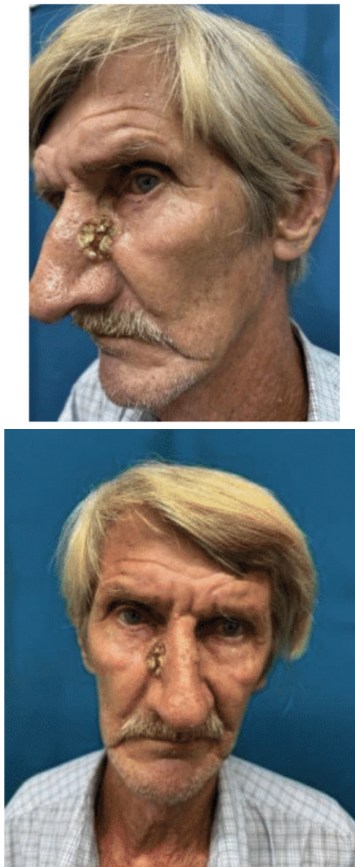


Figure 1: preoperative photos

The surgical procedure was performed under local anesthesia. The nasal lesion was excised with margins and the eyelid lesion was excised in a wedge with a full plane incision. Both lesions were sent for frozen section examination, which revealed free margins.



Figure 2: appearance after removal of the lesion

The eyelid defect was closed primarily by suturing the tarsus with vicryl 6-0 and after closing the skin with nylon 6-0. The nasal defect, after excision of the lesion with margins, extended to the middle third of the left lower eyelid and required excision of the nasal periosteum due to tumor involvement. An Imre flap was chosen for reconstruction. The flap was drawn following the nasolabial fold. The lower portion of the base was cut back for better rotation. The detachment occurred in the subcutaneous tissue. The flap was fixed to the orbital periosteum with 5-0 nylon and skin synthesis was performed with 4-0 nylon and 5-0 nylon. To cover the inferior defect generated by the rotation of the flap, a small cutaneous rotation flap was performed.



Figure 3: flaps made.



Figure 4: Immediate final result



Figure 5: 3 months after

DISCUSSION

Nasal and lower eyelid reconstruction following the excision of neoplasms or trauma represents a significant challenge in surgical practice. The choice of the ideal technique depends on several factors, including the location, size and depth of the lesion. Despite the wide variety of surgical techniques available, there is no universally preferred method, highlighting the importance of an individualized assessment of each case.

In situations where both the lower eyelid and the nose are compromised, it may be necessary to perform reconstruction of the following structures independently. For reconstruction of the lateral nasal wall, the main flaps used include the bilobed flap, the V-Y flap and the nasoglabellar flap. In addition, for the closure of the lower eyelid, a number of techniques with transposition flaps stand out, such as the Tripier flap, which is a myocutaneous flap and the Fricke and Kreibitz flaps, as well as the nasolabial flap with a superior base.

Among the advancement flaps, the McGregor flap, which combines the advancement technique with zeta-plasty, and the Imre flap are frequently used. As far as rotation flaps are concerned, the Mustardé flap is a well-established choice, especially for repairing extensive defects in the anterior lamella of the lower eyelid, and can be associated with cartilage and mucosal grafts to close the posterior lamella.

The Imre flap, described by Joseph Imre in 1903, is designed parallel to the lower eyelid margin, extending to the inner corner and down through the nasolabial fold, being detached in the subcutaneous plane. This flap is especially relevant in reconstructions involving lesions in zones II and III of the lower eyelid.

The use of the Imre flap has proven to be effective, providing satisfactory aesthetic and functional results. Like other flaps common, such as the Mustardé, Esser and glabellar flaps for the medial corner, the Imre flap stands out for its excellent camouflage of the scar in the natural grooves of the face, which is a great aesthetic advantage.

CONCLUSION

Nasal and lower eyelid reconstruction following the removal of neoplasms or trauma is a complex task that requires an individualized approach, always taking into account the specific characteristics of each lesion. The diversity surgical techniques available, from

transposition flaps to advancement and rotation flaps, allows the surgeon flexibility to tailor the intervention to the patient's needs.

Among the options, the Imre flap stands out for its aesthetic and functional effectiveness, offering satisfactory results and favorable positioning of the scars, as demonstrated in our patient's final result. Choosing the right technique is essential to optimize recovery and the patient's quality of life, reinforcing the importance of in-depth knowledge of the various reconstruction modalities.

Continuous research and clinical experience are fundamental to improving surgical strategies and achieving the best results in reconstructions of this nature.

REFERENCES

- 1 Jesse D. Meaie, Ryan M. Dickey, Elizabeth Killion, Erica L. Bartlett, Rodger H. Brown. Facial Skin Cancer Reconstruction. *Semin Plast Surg* 2016;30:108–121
- 2 Miller MDB, Boa MAF, Loda G. Double transposition flap for lower eyelid reconstruction: case report of a new surgical approach. *Rev. Bras. Cir. Plást.* 2023;38:e0680
- 3 Miranda ML, Lima RC, Rodrigues CJ, Pego KVT, et al. Reconstruction of the nasal subunits after tumor resection. *Rev. Bras. Cir. Plást.* 2021;36:156-163
- 4 Metzger JT. Joseph Imre, Jr., and the Imre flap. *Plast Reconstr Surg Transplant Bull.* 1959;23(5):501-9
- 5 Beirigo MF, D'Alessandro GS, Oksman D, Nunes TR, Busnardo FF, Pinto WS. Reconstruction of medial portion of inferior eyelid using the Imre flap. *Rev. Bras. Cir. Plást.* 2009;24:569-572
- 6 Durso DA, Bocardo SD. Reconstruction of eyelid zones II and III: case series. *Rev. Bras. Cir. Plást.* 2020;35:288-293
7. World Health Organization (WHO). Skin cancers. 2021. Disponível em: <https://www.who.int/news-room/fact-sheets/detail/cancer>. Acesso em:
8. World Health Organization (WHO). Global cancer observatory: Cancer today. 2019. Disponível em: <https://gco.iarc.fr/today>
9. World Health Organization (WHO). Nonmelanoma skin cancer: an overview. In: Cancer Fact Sheets. 2012. Disponível em: <https://www.who.int/cancer/publications/nmsc/en/>.
10. International Agency for Research on Cancer (IARC). World Cancer Report: Cancer Research for Cancer Prevention. 2020. Disponível em: <https://www.iarc.who.int/news-events/world-cancer-reports/>.
11. World Health Organization (WHO). Cancer country profiles. 2017. Disponível em: <https://www.who.int/cancer/country-profiles>
12. World Health Organization (WHO). Cancer country profiles. 2017. Available at: <https://www.who.int/cancer/country-profiles>