

Dermatologic surgery rounds: cheek advancement flap for lateral nasal defect reconstruction after basal cell carcinoma removal

Georgi Tchernev,^{1,2} Konstantin Georgiev Tchernev Jr,¹ Simona Kordeva^{1,2}

¹Onkoderma, Clinic for Dermatology, Venereology, and Dermatologic Surgery, Sofia; ²Department of Dermatology and Venereology, Medical Institute of the Ministry of Interior, Sofia, Bulgaria

Key words: cheek advancement flap; dorsum nasi; lateral nasal defect; dermatologic surgery; basal cell carcinoma.

Correspondence: Simona Kordeva, Department of Dermatology and Venereology, Medical Institute of the Ministry of Interior, General Skobelev 26, 1606 Sofia, Bulgaria. E-mail: simonakordeva97@gmail.com

The case

A 75-year-old female presented to the dermatology department with a primary complaint of a solitary tumor formation located on the *dorsum nasi* region, slightly toward the left sidewall. The lesion was round, approximately 1 cm in diameter, prominent above the surrounding skin, with multiple telangiectasias and a characteristic pearly edge. The patient had a history of histologically verified basal cell carcinoma in the nasal region, previously excised with clean resection margins. Additional tumorous lesions can be seen in the right cheek and the superior labial region of the face. A clinical diagnosis of basal cell carcinoma was established, and surgical excision under local anesthesia with lidocaine was recommended to the patient.

Our choice

The tumorous lesion located on the *dorsum nasi* extending to the left lateral nasal side was surgically excised with a surgical safety margin of 1-2 mm in all directions. The resultant primary defect was round, with exposed upper lateral cartilage.

Given the anatomical complexity of the nasal region and the risk for tissue distortion or aesthetically displeasing outcome due to the tension vectors generated by the primary defect, secondary wound healing or primary closure with single interrupted sutures were not considered. Furthermore, the proximity to important neurovascular anatomical structures – including the external nasal branch of the anterior ethmoidal nerve, the infraorbital and external nasal nerves, as well as the dorsal nasal and part of the lateral nasal arteries, and the angular and inferior ophthalmic veins – necessitated a cautious and anatomically precise approach.

We present a case of a primary small-to-medium-sized defect following surgical excision of a tumor located on the *dorsum nasi* region, slightly toward the left sidewall (Figure 1 a,b).

Considering the patient's skin laxity, the defect size and location, and the need to minimize the tension vectors, the lateral nasal defect was planned for reconstruction using a one-step cheek advancement flap. The flap will have similar anatomical integrity, including blood supply and innervation.

Procedure

The lesion was surgically excised under local anesthesia with 1% lidocaine. An advancement flap was designed for the reconstruction of the remaining secondary defect on the left nasal side wall, using adjacent cheek tissue serving as the donor site. A transverse incision was marked over the infraorbital margin, with a second incision positioned just above the nasal sulcus (Figure 2). Hemostasis was carefully achieved. Dissection proceeded to the subcutaneous plane, and after sufficient mobilization, the flap was advanced without tension towards the edge of the nasal defect (Figure 3). The vascular supply was preserved. The underlying lateral cartilage was left intact to allow the skin to conform naturally. Closure was performed using simple interrupted 3-0 polypropylene sutures (Figure 4 a,b). Histopathological examination confirmed a basal cell carcinoma, basosquamous type, with a characteristic keratotic component. Surgical margins were clear, and the lesion was staged as T2N0M0. No postoperative complications were noted. The flap remained healthy. At the one-month follow-up, the patient demonstrated a functionally intact and aesthetically pleasing result (Figure 5).

Comment

Reconstruction of the nasal region requires careful consideration of both functional and aesthetic outcomes to restore the natural anatomical structure of the face.¹ Cheek advancement flaps provide a single-stage solution for nasal defect closure, utilizing highly vascularized and mobile tissue.¹ Prior to flap design, the dermatologist must assess whether the donor site offers an adequate tissue reservoir.² Tension vectors should be planned to avoid free margins and sensitive anatomical structures.² Due to the additional incisions and possible tension generated, there may be a higher risk of postoperative complications.² Nevertheless, this technique ensures aesthetically pleasing final results by aligning the reconstruction within the patient's facial cosmetic subunits and allowing optimal scar camouflage within the surrounding facial creases.³



Figure 1. Preoperative view: a solitary tumor formation located on the *dorsum nasi* region, slightly toward the left sidewall. The lesion is round, approximately 1 cm in diameter, prominent above the surrounding skin, with multiple telangiectasias and a characteristic pearly edge.



Figure 2. Intraoperative view: a transverse incision is marked over the infraorbital margin, with a second incision positioned just above the nasal sulcus. Hemostasis is achieved.



Figure 3. Intraoperative view: dissection proceeds to the subcutaneous plane, and after sufficient mobilization, the flap is advanced without tension towards the edge of the nasal defect.

The outcome

The outcome is shown in Figure 5.

References

1. Himeles JR, Criscito MC, Kellner R, et al. Applying Occam's Razor and Descending the Reconstructive Ladder: The Modified Cheek Advancement Flap for Reconstruction of Nasal Defects. *Facial Plast Surg* 2023;39:180-4.
2. Chen EH, Johnson TM, Ratner D. Introduction to flap movement: reconstruction of five similar nasal defects using different flaps. *Dermatol Surg* 2005;31:982-5.
3. Tchernev G, Kordeva S. Cheek advancement flap for BCC of the nose: the nitrosamine contamination during the combined drug intake as important skin cancer triggering factor. *Acta Medica Bulgarica* 2025;52:67-75.



Figure 4. Intraoperative view: closure is performed using simple interrupted 3-0 polypropylene sutures.



Figure 5. One-month follow-up: functionally intact and aesthetically pleasing result. Additional tumorous lesions can be seen in the right cheek and superior labium regions of the face, as indicated by the three black arrows.

Received: 15 May 2025; Accepted: 27 May 2025.

Conflict of interest: the authors declare no potential conflict of interest.

Ethics approval and consent to participate: not required.

Consent for publication: the patient gave her written consent to use her personal data for the publication of this case report and any accompanying images.

Availability of data and materials: not applicable.

Publisher's note: all claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article or claim that may be made by its manufacturer is not guaranteed or endorsed by the publisher.

This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License (CC BY-NC 4.0).