Modified advancement transposition flap for squamous cell carcinoma with periauricular location

Georgi Tchernev,[1,2] Simona Kordeva[1]

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

The case

A 74-year-old male presented to the dermatology department with tumor formation located in the left auricle area, measuring 2 cm in size. The tumor exhibited surface erosions and peripheral erythema. Additionally, in the right lower eyelid and temporal regions, clinically suspected lesions for squamous cell carcinomas were noted. The patient had a previous history of 15 surgical interventions in the facial area, primarily for squamous cell carcinomas, with one documented removal of basal cell carcinoma. A clinical diagnosis of squamous cell carcinoma was established, and the patient was recommended surgical excision under local anesthesia. How would you remove the lesion? (Figure 1)

Figure 1.

Our choice

The tumor formation in the periauricular region was removed with an elliptical excision with a surgical safety margin of 4 mm in all directions. Primary closure with single interrupted sutures or secondary wound healing were not an option due to the size and location of the primary defect. The generated tension will compromise the anatomical integrity of the area, resulting in both functional impairments and aesthetic issues. We also took into consideration the close proximity to the superficial temporal vessels.

Considering the size of the primary defect and the patient's skin elasticity, our team decided to utilize a modified advancement transposition flap to repair the large defect while also preserving the anatomical integrity of the area. The flap will efficiently redistribute the primary tension vectors generated during defect closure, resulting in a more refined outcome. Additionally, the flap tissue will have similar vascular supply and innervation. The flap was formed in the upper part of the primary defect, following careful dissection and undermining down to the hypodermis. The pedicle will consist of the subcutaneous tissue beneath the flap. Subsequently, the flap was transposed towards the jaw direction. The superficial temporal vessels were successfully preserved. The skin edges were adapted using 1-00 sutures, extending from the orbit to the ear and from the nose to the periauricular area, minimizing the tension vectors and evenly distributing them in all directions (Figure 2). The sutures were removed 14 days post-surgery. The flap remained healthy without any postoperative complications. After the one-month follow-up, the patient exhibited improvement, and an aesthetic outcome was achieved.

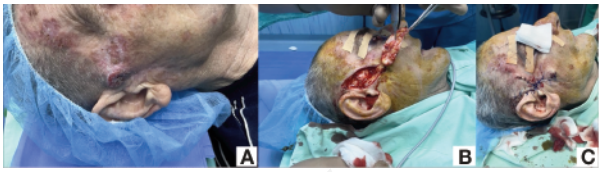

Figure 2.

Comment

Primary wound defects that extend beyond the limits of primary closure should be considered for reconstruction using a local advancement flap.[1] When employing a flap reconstructive technique, several important factors should be considered, including the size and location of the primary defect, the primary tension vectors and their distribution, potential impact on adjacent anatomical structures, flap vascularity, and perfusion, *etc*.[1] Local flaps are "ideal" candidates when the adjacent tissue is healthy or unaffected by the malignant process, allowing for immediate tissue relocation to address a nearby primary defect.[1] With the use of a modified advancement flap, we ensured minimal trauma to the surrounding tissues while also achieving a more aesthetically refined final look. The vascular supply was effectively preserved, and the postoperative period proceeded without any complications.

The outcome

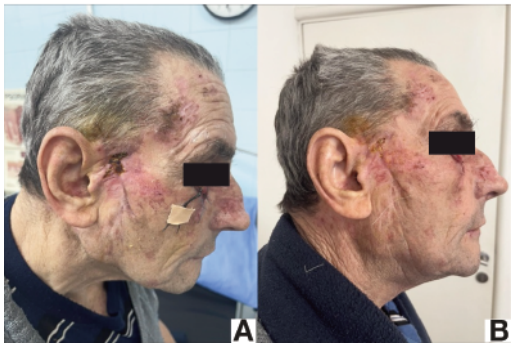

Figure 3. A) 14 days post-surgery; **B**) one-month follow-up.

References

1. Etzkorn JR, Zito PM, Hohman MH, et al. Advancement Flaps. In: StatPearls. Treasure Island (FL): StatPearls Publishing; 2024. Available from: https://www.ncbi.nlm.nih.gov/books/NBK431081/