



Aesthetic Palpebral Reconstruction Following the Excision of Basal Cell Carcinoma (BCC): A Case Report

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Abstract

Edited by: Igor Spiroski

Citation: Tudzarova-Gjorgova S, Selchanec A, Spasova M, Karadinova-Kovandzic M. Aesthetic Palpebral Reconstruction Following the Excision of Basal Cell Carcinoma (BCC): A Case Report. Open Access Maced J Med Sci. 2024 Mar 20; 12(2):Ahead of Print <https://doi.org/10.3889/oamjms.2024.11846>

Keywords: Basal-cell cancer; Lower eyelid; Cartilage graft; Basalioma; Eyelid reconstruction

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Received: 08-Dec-2023

Revised: 17-Jan-2024

Accepted: 14-Feb-2024

Ahead of Print: 20-Mar-2024

Copyright: © 2024 Smilja Tudzarova-Gjorgova, Ana Selchanec, Marija Spasova, Mina Karadinova-Kovandzic

Funding: This research did not receive any financial support

Competing Interests: The authors have declared that no competing interests exist

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BACKGROUND: Basal cell carcinoma (BCC) is the most common skin malignancy, and when considering its predilection for the face – it is most commonly found on the eyelids.

CASE PRESENTATION: In our patient's case, the BCC was located on the left lower eyelid exemplifying the classic macroscopic appearance of a nodular basalioma. We took into account all of the patient's variables (particularly the lesion's difficult location) to choose the best surgical approach for excision of the tumor, as well as the reconstructive strategy that would result in the most functional and aesthetic outcome.

CONCLUSION: In this report, we present a case of our patient with BCC on the lower eyelid, our surgical method for excision and palpebral reconstruction using an autologous auricular cartilage graft, and the final outcome, which we consider was the best option for the patient in question.

Introduction

A 71-year-old patient was admitted to the University Clinic of Plastic and Reconstructive Surgery in Skopje with an evident lesion in the lateral part of the lower eyelid of the left eye, and complaints of persistent local pruritus and redness. The lesion had been present and slowly growing for around 18 months and had been previously unsuccessfully treated conservatively with several sessions of cryotherapy by a dermatologist.

On inspection, an oval lesion was observed with a diameter of 1 cm, and located on the outer third of the lower eyelid of the left eye, just below the lateral canthus. The neoplasm was sharply demarcated from the surrounding macroscopically normal skin. The lesion had the typical macroscopic finding of a nodular basalioma – shiny, pearlescent, skin-colored nodule with rolled borders, visible teleangiectasia, and central ulceration.

Surgical approach

The surgery was carried out under local anesthesia with intravenous sedation with an anesthetic solution of 2% Lidocaine with adrenaline. A solution of Tetracaine was used to numb the eyes, and an ocular shield was placed. Then, the lesion was excised with a 4 mm margin, and it was evaluated that the carcinoma had a partial-thickness involvement (skin, muscle, and tarsus).

Then, about 1–2 mL of 2% Lidocaine with 1:100,000 epinephrine was injected to the anterior auricular region, more specifically in the antihelix. The auricular cartilage graft was then harvested through a vertical incision as a rectangular strip of the left ear, with dimensions of around 1 × 0.3 cm. (Figure 1) the graft was then temporarily preserved in a mixture of antibiotic and normal saline. The auricular skin incision was closed using 4–0 Prolene and a passive drain was placed.



Figure 1: Harvesting ear cartilage graft (left); the cartilage graft (middle); 1-month post-operative healed ear (right)

The defect left after the excision of the carcinoma was less than one-third of the margin, which is considered a small defect. Hence, the excised part of the tarsus was replaced by the auricular cartilage graft that we harvested (Figure 2) and a local advancement flap and it was sutured with 5/0 Vicryl stitches. The eyelid margin was aligned by placing interrupted sutures through the lash line, the tarsal plate, and the gray line. (Figure 3) Taking care to prevent corneal abrasion, the sutures placed were partial thickness through the tarsal graft without extension through the conjunctival surface, and the suture tails were directed away from the ocular surface. Sterile non-adhesive gauze was placed on the wound. After the procedure, the patient stayed in the hospital for 3 days during which he received intravenous antibiotics (2 g of Ceftriaxone once a day) and analgesics for pain control.



Figure 2: (From left to right) placing the auricular cartilage graft

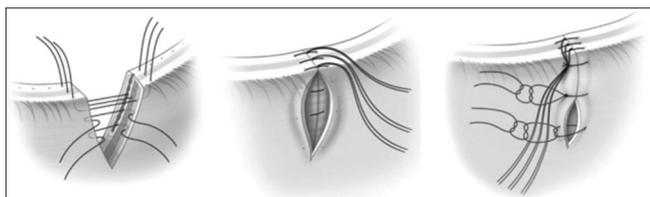


Figure 3: Eyelid margin repair

Next, the patient was discharged from the hospital – he was prescribed Tobramycin/Dexamethason eyedrops for local application and was advised to maintain proper hygiene.

The excised carcinoma was pathohistologically analyzed and the tissue specimen revealed atypical basaloid cells with peripheral palisading. These findings are consistent with basocellular carcinoma. The resection margins were found to be with orderly morphology.

Outcome and follow-up

The surgical outcome provided excellent lid symmetry and aesthetics with proper lid function and patient satisfaction without an incision scar or any discomfort whatsoever. The symptoms of pruritus and redness disappeared after surgery, and no recurrence was observed at the 3-month follow-up. There were no adverse effects experienced by the patient (hematoma/seroma formation, pain, infection or dehiscence of the wound, ectropion), and the scarring is minimal, as evident on the photo (Figure 4).



Figure 4: Pre-operative and 3-month post-operative

We will continue to follow this patient to see if there is recurrence in the following period.

Discussion

Basal cell carcinoma (BCC) is the most common eyelid malignancy which accounts for 65.5% of all malignant eyelid tumors [1]. Basal cell cancer is most often located on the medial canthus and the lower eyelid, such as in our case. Patients at the highest risk for BCC are fair-skinned, blue-eyed, blond, middle-aged, or elderly people. A history of prolonged sun exposure during the first two decades of life and a history of cigarette smoking also increase the risk of basalioma; our patient had been a long-time smoker,

had worked as a farmer and so was exposed daily to sunlight for most of his life, and is classified as Fitzpatrick skin Type II.

Surgery is the treatment of choice for all BCCs. Surgical excision affords the advantages of complete tumor removal with histological control of the margins. The recurrence rate is lower with excision than with any other treatment modalities, and it also offers superior cosmetic results in most cases.

We considered the anatomy of the eyelids, as well as the periocular zones (Figure 5), and the location of our patient's carcinoma and determined that the lesion was located in Zone II. The lower eyelid consists of seven structural layers: skin and subcutaneous connective tissue, muscles of protraction (m. orbicularis oculi), orbital septum and orbital fat, muscles of retraction (the capsulopalpebral fascia, m. tarsalis inferior) and tarsus and conjunctiva. The tarsus is a firm, dense plate of connective tissue that serves as the structural support of the eyelids, and since it had been infiltrated by cancer, it was important to excise it and replace it with a suitable structure. An auricular cartilage graft provides a thin and pliable cartilage suitable for tarsal replacement – since it has a high similarity with the anatomy of the tarsal plate, and it is adaptable to the convex surface of the eyeball, it is preferable for eyelid reconstruction [2].

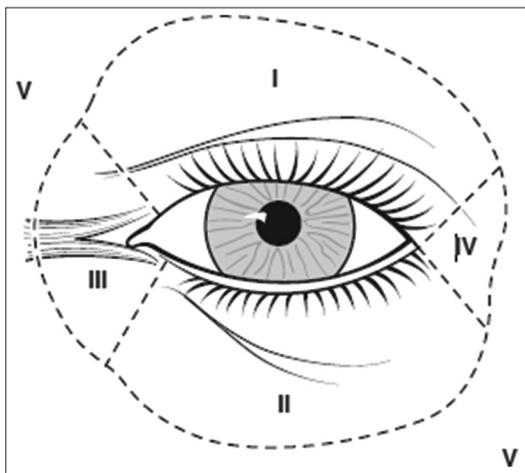


Figure 5: Periocular zones

The size of the defect left after the excision was less than one-third of the eyelid margin, which is considered a small defect. Since we also excised a part of the tarsus which needed to be reconstructed to keep the structural integrity of the eyelid – the auricular cartilage which we harvested from the left ear was then placed instead of the excised tarsal part and sutured [3], [4], [5], [6]. Primary closure is usually employed when one-third or less of the eyelid margin is involved – so all of these facts shaped our treatment approach – surgical excision and placement

of a cartilage graft, followed by a lateral canthotomy, cantholysis, and local tissue advancement.

Conclusion

BCC is the most common type of skin malignancy, and as such, it is imperative for plastic and oculoplastic surgeons to be familiarized with the different and most appropriate techniques of cancer removal and eyelid reconstruction. In our case report, we present a case of lower eyelid basocellular cancer and the favorable outcome of the reconstruction with a cartilage autograft. We hope that our experience with this case and its presentation would help or even inspire a fellow surgeon how to approach eyelid reconstruction using cartilage grafts.

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