An 85-year-old male was referred to the otolaryngology clinic for evaluation of a known recurrence of a large basal cell lesion on his left cheek.

The patient complained of increasing irritation to the left side of his face, an area previously treated with radiation for the basal cell carcinoma (BCC). A scar contracture with some superficial crusting was seen at the left cheek (Figure 1). The abnormal region measured approximately 3 cm x 2 cm. Punch biopsies (incisional) were taken. On follow-up, the biopsies reported that the BCC was incompletely excised. Treatment options were discussed with the patient and he was interested in surgical excision under local anesthesia.

The patient had a past medical history remarkable for heart disease, hyperlipidemia, hypertension and diabetes. Relevant to his presenting complaint, he had a previous BCC on his left cheek treated with radiation about two years prior. He also had a squamous cell carcinoma removed from his right forehead by curettage by a dermatologist about 10 years prior. His current medications included regular cardiac and diabetic medications including acetylsalicylic acid (ASA) 81 mg daily.

**DESCRIPTION OF TECHNIQUE**

Under local anesthesia, the lesion was excised, and the margins sent for frozen section pathology. Posterior, inferior and superior margins were initially negative for tumor. Margins were initially positive anteriorly, and thus additional tissue was excised to yield approximately 5 to 10 mm of negative margins. This resulted in a defect of approximately 4 cm x 3.1 cm (Figure 2). Two skin flaps were then elevated with a skin peninsula between them. The anterior limb from the pre-auricular region was then rotated antero-superiorly to fill the area of the primary defect. The second limb was then elevated at the neck and post-auricular region to fill the secondary defect at the pre-auricular space (Figure 3). The posterior defect was then closed primarily along the hairline. A Burrow’s triangle was excised from the first flap and the V-Y advancement flap was used to close the anterior-most incision (Figure 4).

Hemostasis was performed using the bipolar forceps. The patient tolerated the procedure well under local anesthesia. He was observed for two hours post-operatively due to increased risk of bleeding secondary to ASA use. He was then discharged home.

Given the location of the lesion, commonly used methods of wound closure were considered to be suboptimal for the surgical reconstruction. These methods were believed by the senior author to give inferior cosmetic results. The wound pattern was amenable to primary closure given its size and the fact that the surrounding tissues could not be mobilized because of anatomic landmarks (i.e., peri-orbital tissues, ear and hairline). Full-thickness skin grafting would be difficult from a technical point of view. The use of this technique would require the patient to function with a large bulky

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**Cheek Reconstruction: A Variation on a Bilobed Flap**

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bolster tie over dressing at the surgical site for at least two weeks, and also would have a tendency to fall off or compress the inferior part of the skin graft while leaving the superior part of the graft without sufficient compression because of gravity. For a defect of this size, it would be difficult to obtain a sufficient area of donor skin. Common donor sites are the post-auricle area or the supra-clavicular area as they give the best color match. Other locations such as the groin or arm were not appropriate as the color match is poor and also leads to another site of morbidity. A split thickness skin graft would contract markedly and scar down, leading to both poor cosmetic results statically and also dynamically during facial motion. Allowing the wound to granulate was unfavorable as the wound would take a long period of time to heal and would give a very poor cosmetic result.

**LITERATURE REVIEW**

The bilobed flap was first described by Esser in 1918 for use in nasal tip defect reconstruction. Others such as Zimany, McGregor and Soutar expanded on its principles and described how it could be applied to many areas of reconstruction. The bilobed flap is basically a rotation flap
that “spreads the load”, masquerading as two transposition flaps. The bilobed flap can be used for small to moderate sized lateral cheek defects. Undermining and mobilization are less extensive than with the rotation flap, but scarring is more extensive.4

The surgical approach taken includes outlining the planned defect and drawing two flaps, each slightly smaller than the other in transverse dimensions. The flaps are fashioned so that they form the radius of a circle on whose edge the outer rim of the defect lies. Each flap may rotate 90 degrees or less. The flaps must be elevated to their bases and beyond to achieve good movement. The defect of the second flap should be capable of comfortable direct closure. Trimming of the flaps and the dog-ears resulting from the rotation may be necessary.4

The practicality of using this flap is that it can assess how much skin is available in the area from which the second flap will come. Since these are rounded flaps, there is a potential for pin-cushioning as the scars heal and contract. A second procedure to de-fat the flaps is required to correct the problem, but it is not always entirely effective. The area and amount of scarring is extensive as there is a typical “B” shaped scar that remains from the two lobes of the elevated flaps.4

The bilobed flap technique is useful to physicians treating superficial skin cancer and performing anatomical reconstruction. This commonly includes specialists in plastic surgery, otolaryngology and surgical dermatology, but may also be applied to general surgery and other specialties.

CASE REVISITED AND CONCLUSION

Post-operatively, the patient did well. The following day, the suture line was debrided, there was no hematoma present, and facial nerve function was intact. On post-operative day seven, the sutures were removed. At one month follow-up, the lesion was healing well, with a very small area of wound dehiscence (breakdown) at the posterior ear (Figure 5).

Pathology showed the specimen to be a nodular BCC. The BCC infiltrated into deep dermis to 0.025 cm. The skin edge margins and the deep margin frozen sections were clear for tumor. Currently, the patient has made a full recovery and the wound continues to improve with time, as expected.

This case of recurrent nodular basal cell carcinoma of the cheek in an 85-year-old male demonstrates the application of the traditional theory of the bilobed flap in the setting of cheek reconstruction. The case illustrates a number of points which are notable, the most striking of which is the usefulness of the bilobed flap when combined with a local rotational flap. The traditional bilobed flap is typically used on skin deficits and uses two skin flaps to cover the size of the original defect. Our technique was a variation on this, as the lobes of the flap were not symmetric and the angle in between these was greater than 90 degrees. The flap recruited skin from the neck as well as pre- and post-auricular area and therefore was well-matched for texture and color of local skin. Incision lines were camouflaged at the ear and hairlines and there was normal motor nerve function post-operatively. This modified flap for this soft tissue defect and the clinical skin pattern of lax skin and hairline for this patient showed a unique way of solving the reconstructive problem using the same fundamental principle of the bilobed flap.

This patient went on to an excellent aesthetic result as well as appropriate disease cure from an oncologic point of view. We show that this variation of the bilobed flap may be a good alternative technique that can be done under local anesthetic and used to reconstruct large cheek defects.

REFERENCES


Author Biographies

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