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Modified Antia–Buch flap for the reconstruction of helical rim defects☆

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Summary *Background:* The Antia–Buch flap is a sophisticated one-stage procedure using two chondrocutaneous flaps to reconstruct the ear helix. Because tissue laxity is largely conferred by the inferior flap, relative to the less mobile superior flap, chondrocutaneous resection of scapha is required for closure. This results in loss of ear height and limits morphologic outcome. We describe a modification of the Antia–Buch flap, which may avoid such drawbacks.
Patients and method: We conducted a retrospective review of patients ($n = 15$), each undergoing our modified Antia–Buch flap between 2010 and 2014. All procedures were performed under local anesthesia as outpatient procedures. Data on magnitude of resections, procedure durations, related complications, and aesthetic outcomes were collected.
Results: The mean size of resection was 25 mm (range, 20–30 mm). The modification improved the mobility of the upper chondrocutaneous flap, eliminating the need to resect the scapha. All wounds healed uneventfully, with no skin necrosis. The morphologic outcome was satisfactory or very satisfactory in all patients, preserving the shape, height, and width of the ear.
Conclusions: Our modification changes the upper flap from an advancement flap to a transposition flap, enhancing its mobility and preempting the resection of the scapha. Thus, anatomic landmarks, aesthetic subunits of the pinna, and ear height are maintained for highly satisfactory morphologic results.
Level of evidence: 4.

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Introduction

Given its three-dimensional shape, complex contours, and aesthetic importance, reconstruction of the ear may pose a challenge for reconstructive surgeons. Furthermore, the pinna of the ear is a common site of cutaneous malignancies due to sun exposure, particularly squamous or basal cell carcinomas involving the often vulnerable helical rim.[1]

Currently, many techniques exist for reconstructing full-thickness helical rim defects, including skin, chondrocutaneous, or tubed mastoid flaps and composite grafts. The choice of procedure typically is dictated by the dimension and site of the defect and the level of the dermatologic surgeon's skill. Although the chondrocutaneous advancement flap of Antia and Buch, first described in 1967,[2] is not a favorite in routine practice, it is a versatile and cosmetically sound one-stage alternative in this setting. Its primary disadvantages are the loss in dimensions of pinna that result and the degree of surgical complexity.

Herein, we describe a modification of the Antia—Buch flap for use in small-to-moderate defects of helical rim. Our method is intended to remedy the diminution of pinna, which is otherwise expected with this approach.

Patients and method

Between November 2010 and March 2014, all patients undergoing modified Antia—Buch flaps for ear reconstruction at our institution were included in this retrospective study.

Surgical procedure

The procedure is performed under local anesthesia, infiltrating the posterior aspect of the ear pinna with xylocaine 1% plus epinephrine 1:100,000. Epinephrine is not used on the anterior aspect of the pinna to avoid skin necrosis, but xylocaine 1% is infiltrated as needed.

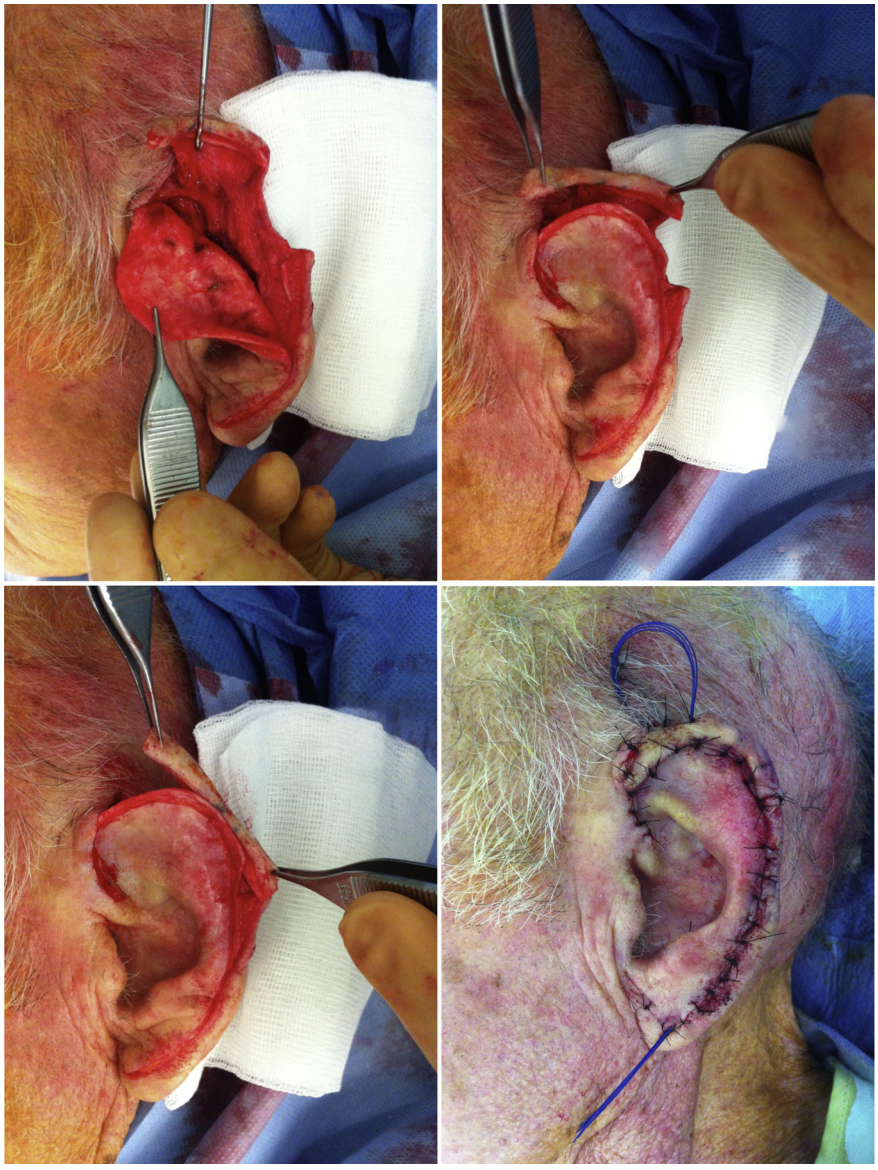

Figure 1 The vertical back cut enhances the mobility of the upper chondrocutaneous flap.