

HELICAL RIM RECONSTRUCTION AFTER TRAUMATIC INJURY TO EAR

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ABSTRACT

Objective: To evaluate on the basis of cosmetic results the technique of rectangular flap for helical rim reconstruction following injuries to the outer ear.

Study Design: Case series.

Setting & Duration: Department of Surgery, Abbasi Shaheed Hospital from June 2007 to June 2008.

Methodology: In all cases following the injury at least three weeks were allowed to pass before definitive reconstruction. The procedure was done in two stages.

Results: Three cases have been presented from this ongoing study. Patients satisfaction was the main criteria for outcome evaluation. All cases showed excellent outcome with no complication and follow-up in the short term has been satisfactory.

KEY WORDS: Ear Reconstruction, Helical Rim Defects, Post Traumatic Outer Ear Loss

INTRODUCTION

Injuries to outer ear are common. In certain groups of society they are more common due to human bites.¹ Microvascular and non microvascular techniques to reimplant the ear have been described.^{2,3,4} However results are not uniform and failure rates high.⁵ In our city patient reaches the hospital too late and usually the detached part is not available. Various methods described for helical rim reconstruction invariably use skin from neck below the ear or from behind the ear in the form of a tube.^{6,7} The reconstruction is not very satisfactory and also leaves an unsightly visible donor scar. We describe a new technique for reconstruction which not only gives good results but also does not produce any unsightly scars.

Technique for Reconstruction

Wound of the helix is allowed to heal by epithelialization. If necessary a small part of protruding cartilage is excised so that ear cartilage is inside the divided ear skin.

At least three weeks are allowed before taking on definitive reconstruction. A rectangular flap is marked on the posterior aspect of ear. The width of the flap is equal to the vertical height of the defect present. The horizontal dimension is determined by the width of the defect so that the flap makes up for the deficit and also makes the rolled portion of the helix. It is usually 10 to 13mm. The base of the flap is at the free end of the defect and essentially the blood supply comes through the scar. In first stage the rectangular incision is given upto perichondrium. The flap is undermined to 3-4 mm and sutured back into place. This flap is delayed for 7-10 days.

In second stage the flap is raised, dissection being kept close to perichondrium until end of divided cartilage is visible. After the ends of normal helical rim at the end of defect are refreshed by blade, the ends of the raised flap are sutured to them. Area of perichondrium exposed is skin grafted with the full thickness of skin taken from other post auricular area of opposite ear. Tie over dressing is done.

DISCUSSION

Reconstruction of rounded normal looking helix after post traumatic loss is a challenging task.⁸ Number of different techniques described, indicate that no technique is satisfactory. This described technique produces near normal looking helix without any visible scar as full thickness graft taken from behind the opposite ear is

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closed primarily. The scar so produced is not visible after few weeks. So far three cases have been done with this innovative technique. In all cases results were

satisfactory from our as well as patient's point of view. However it is felt more cases are required for further evaluation.

Fig. 1 Case-1 Pre-operative lateral view of the ear defect

Fig. 2 Case-1 Quadrilateral flap marked on posterior surface of ear

Fig. 3 Case-1 Post-operative Lateral view



Fig. 4 Case-1 Post-operative view with the graft taken

Fig. 5 Case-2 Accidental injury pre-op view

Fig. 6 Case-2 Post-operative Lateral view

REFERENCES

1. Soni A, Sheoran S, Rajput A. Helical reconstruction in a post human bite defect. Department of Plastic Surgery and Burns, M. P. Shah Medical College, Jamnagar, Gujarat, India. *Indian J Plast Surg* 2006; 39: 79-80.
2. Maral T, Borman H. Reconstruction of the upper portion of the ear by using an ascending helix free flap from the opposite ear. *Plast Reconstr Surg* 2000; 105: 1754-57.
3. Kind G M, Buncke G M, Placik O J, Jansen D A, D' Amore T, Bunche H J J R. Total ear replantation. *Plast Reconstr Surg* 1997; 99: 1858-67.
4. Dionysios E Kyrmizakis,1 Alexander D Karatzanis,1 Constantinos A Bourolias,1 John K Hadjiioannou,1 and George A Velegrakis1. Nonmicrosurgical reconstruction of the auricle after traumatic amputation due to human bite. *Head Face Med* 2006; 2: 45.
5. Postauricular flap based on a dermal pedicle for ear reconstruction 1981; 68(2): 159-65.
6. Johnson T M, Fader D J. The staged Am Acad Dermatol 1997; 37(6): 975-8.
7. Raymund E. Horch MD, Joerg Schipper M D, Roland Laszig M D. Retroauricular skin flap and primary Z-plasty for donor site closure in partial ear reconstruction 2003; 117: 487-489.
8. Conway H, Charles G. Neumann, Gelb J, Leo L. Leveridge, Julius M. Joseph, Reconstruction of the External Ear, *Ann Surg* 1948; 128(2): 234-239.