IAMJ

INTERNATIONAL
AYURVEDIC
MEDICAL JOURNAL

Case Study ISSN: 2320-5091 Impact Factor: 6.719

PRIMARY REPAIR OF THE EXTERNAL EAR AFTER A TRAUMA – SIMPLE AND EFFICIENT TECHNIQUES

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https://doi.org/10.46607/iamj.4609012021

(Published online: December 2021)

Article Received: 11/11/2020 - **Peer Reviewed:** 14/01/2020 - **Accepted for Publication:** 18/11/2020

ABSTRACT

Sandhan Karma as described by *Acharya Sushruta* in an old science which can be correlated with reconstructive surgery in recent times. It is however very difficult to say when the first reconstructive operation on mankind was performed. *Sushruta Samhita* which describes the ancient tradition of surgery in India, contains detailed descriptions of teaching and practice of the great ancient surgeon *Acharya Sushruta*. He has written about all the surgical diseases and their causes, types, Prognosis and treatment especially about the wounds. The incidence of partial ear deformities stemming from the most varied etiologies (Human bites, animal bits, fights, car accidents, infection, burns, etc. has been on the rise in our society. Here we present a case; patient came to emergency ENT ward with a history of an accidental laceration of Right ear primary repair of the ear laceration. The cosmesis achieved by this technique is discussed.

Keywords: Ear laceration, Primary repair, *Sandhankarma*.

INTRODUCTION

Facial Lacerations are a very common complaint in the emergency or primary care setting and the ear presents a unique challenge due to its anatomical structure. Most ear lacerations occur on the exposed auricle also known as Pinna, the area of skin covered by cartilage that forms majority of external ear and is most prone to

injuries. The multiple cartilaginous fold creates shadows and curves that gives the ear an aesthetic look that are very difficult to repair even in smaller injuries. Adding to this complexity, putting the tissues of an ear laceration together is more than just making it cosmetically perfect. Those intricate folds and contours assist in amplification and acquisition of sound. An injury to ear can affect perception of hearing. This report presents 2 similar cases of auricular laceration injury involving cartilage which were managed by primary repair of ear. A good cosmetic result was achieved.

1st Case Report-

Patient name- XYZ
Age- 22yrs
Gender- Male
H/O- RTA leading to injury of Auricular tissue
O/E- P-78/min, Bp-130/80mm/hg`
S/E- RS- AEBE-Clear, CVS- S1 S2- Normal
CNS- Conscious Oriented Obeys Commands.
Injury examination- Right Ear.
Upper 1/3rd of pinna affected
Full thickness laceration of Helix Antihelix approximately 2.5 cm x 0.5cm
Cartilages and skin (fig no-1)

Pre-op:

Patient was shifted to Minor OT

- Inform and Written consent was taken
- Non-MLC consent was taken
- Xylocaine Sensitivity done.

Operative:

- Supine position given.
- Draping Done.
- Rt ear cleaned with betadine and Peroxide.
- Local anesthesia 2% lignocaine infiltrated.
- Small wedge-shaped excision of Injured tissue done.
- Wound closed in layer fusion and re-approximation of cartilage with 6.0 vicryl and skin sutured with Ethilon 3.0. (fig no-2)

Post-operative:

Oral Antibiotics, Analgesics and Antacids prescribed.

- Inj. Tetanus Toxoid given IM.

Post-op Follow up:

- Wound dressing done.
- Watch for Sutures, Fluid collection etc.
- No residual necrosed tissues found.
- Good results achieved (fig no-3)

Fig 1

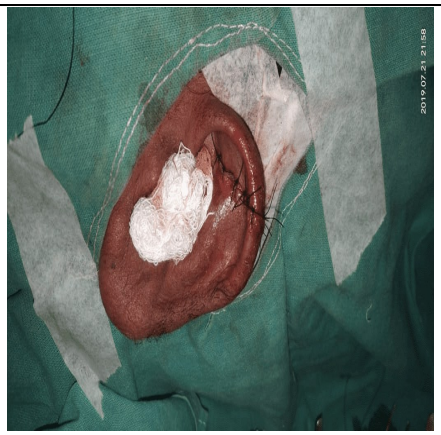


Fig 2

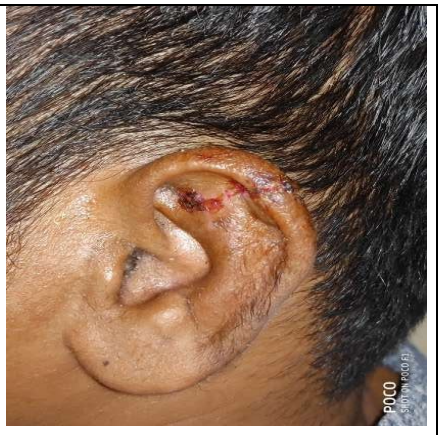


Fig 3

CASE 2:

Patient name- XYZ
Age- 55 years
Gender- Male
H/O- RTA leading to injury of Auricular tissue.
O/E- P- 80/min
Bp- 140/90mm/hg`
S/E- RS- AEBE-Clear
CVS- S1 S2- Normal
CNS- Conscious Oriented Obeys Commands.
Injury examination- Right Ear.
Full thickness laceration of Middle 1/3rd of Pinna.

Size- Approx 3.5 cm x 1.5 cm x 0.5 cm. (Fig no 4 & 5)

Pre-operative:

- Patient was shifted to Minor OT
- Inform and Written consent was taken
- Non-MLC consent was taken
- Xylocaine Sensitivity done.

Operative:

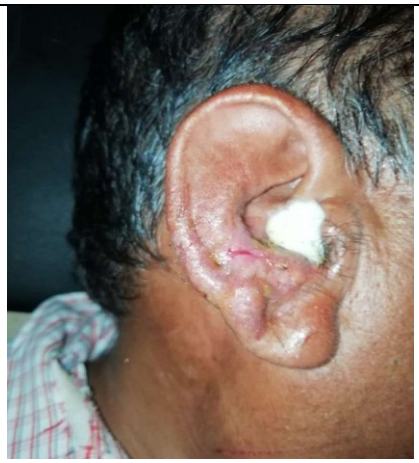
- Supine position given.
- Draping Done.
- Injured site cleaned with betadine and Peroxide.
- Local anesthesia 2% lignocaine infiltrated.
- Excision of soiled and necrosed tissue done.
- Wound closed in layer fusion and re-approximation of cartilage with 6.0 vicryl and skin sutured with Ethilon 3.0.
- Wound dressed in sterile gauze.

Post-operative:

- Oral Antibiotics, Analgesics and Antacids prescribed.
- Inj. Tetanus Toxoid given IM.

Post-operative Follow up:

- Wound dressing done.
- Watch for Sutures, Fluid collection etc. (Fig no- 6)

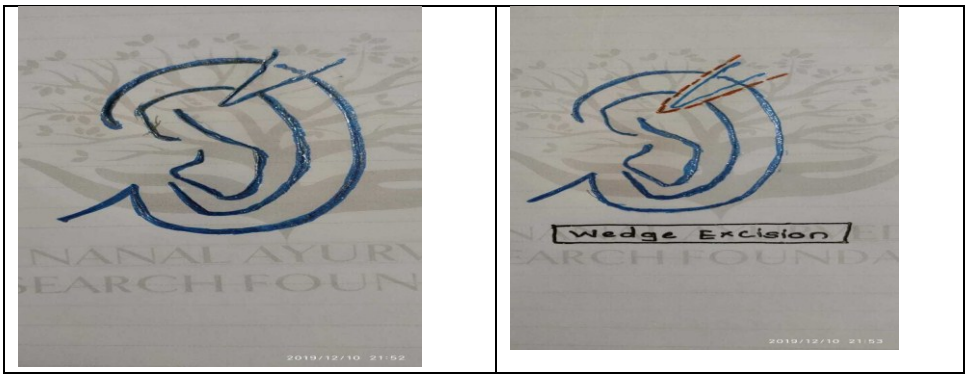


DISCUSSION

The above 02 cases of Auricular injuries and its repair can be somewhat correlated to the *Karna Sandhana Vidhi* mentioned by *Acharya Sushruta* in Ancient traditional medicine of Ayurveda. He mentioned 15 types of *Karna Sandhana Vidhi*, in which he described various methods of reconstruction surgeries of lobuloplasty.

As per *Acharya Sushruta* 15 type of *Karnasandhana Vidhi* was mentioned. In this study *Nemisandhanaka* with *Uttatpalbhedaka* technique use for 1st case and *Asangini* with *Vyayojima* technique use for 2nd case.

Repair of an Ear laceration involves few basic principles. First case i.e. being avascular structure the main blood supply from the skin overlying it. Thus, it is to ensure its integrity, fortunately ear skin is pretty stretchy and can usually cover a defect pretty easily. for Very macerated wound along the helix, it is acceptable and sometimes advisable to perform a small triangular tissue wedge excision in order to create "surgical" wound edges that can approximated with perfection. About 5mm of cartilage can be removed from this area without causing significant deformity if the overlaying skin is not enough to cover the exposed cartilage.



The excision can be performed by cutting a triangle wedge from the ear extending as necessary into the Antihelix. Attempt to allow at least a 1 mm of skin overhang beyond the cartilage on either side to allow approximation with skin eversion and complete cartilage coverage. For deep/extensive wound, consider layered closure. Frist close the cartilage with simple interrupted deep dermal suture such as 6-0 vicryl. Try to approximate the outer cartilage layer. Then close the skin with simple interrupted non absorbable suture such as 6-0 vicryl. It's a good idea to start by suturing along the less cosmetically noticeable posterior aspect of the ear in order to make sure the wound comes together easily.

CONCLUSION

Laceration and abrasion are among the most common auricular injuries resulting in grievous cosmetical discomfort. The golden rule in such cases after adequate local anesthesia is to balance with maximal tissue preservation and appropriate measures to recover the tissue in previous form.

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Source of Support: Nil
Conflict of Interest: None Declared

How to cite this URL: Pallavi P. Vyavahare & Nilakshi Pradhan: Primary Repair Of The External Ear After A Trauma – Simple And Efficient Techniques. International Ayurvedic Medical Journal {online} 2021 {cited January, 2021} Available from: http://www.iamj.in/posts/images/upload/292_295.pdf