

Original Research Article**Bolsterless technique for treating auricular haematoma**

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Abstract

Auricular haematoma is collection of blood between auricular cartilage and perichondrium presenting as a fluctuant swelling over the pinna. When it is left untreated, it leads to permanent deformity of the pinna known as wrestler's ear. Conventionally it is treated by prompt incision and drainage followed by placement of cotton bolster and other materials and application of compression bandage to prevent reaccumulation. These compression bandages cause a lot of discomfort to the patient and poor compliance. We followed an unconventional method to treat auricular haematomas in a group of 10 patients. Of the 10 patients, eight had excellent results with no recurrence at one month follow up. We observed that through and through mattress sutures applied following incision and drainage is very effective in treating auricular haematomas. Pressure bandage is avoided leading to better patient comfort and compliance.

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1. Introduction

Auricular haematoma is collection of blood between auricular cartilage and perichondrium presenting as a fluctuant swelling over the pinna.¹ It is a result of blunt trauma to the pinna. It is often seen in contact sports like wrestling, boxing and martial arts.² It is also very common in construction workers and labourers. When left untreated, it leads to formation of organized haematoma and infection resulting in neocartilage formation and permanent deformity of the pinna known as wrestler's ear. Conventionally it is treated by prompt incision and drainage followed by placement of cotton bolster and application of compression bandage

to prevent reaccumulation. These compression bandages which are left in place for one week to 10 days cause a lot of discomfort to the patient. Patients work and social life is adversely affected leading to poor compliance. Patients often come back with recurrence. In our search for a better alternative we decided to undertake this study in which we used an unconventional method of applying through and through mattress sutures after incision and drainage. No pressure bandage is used. The study is done with the intention of finding out the effectiveness of this method in treating auricular haematomas.

2. Materials and methods

Total of 10 patients presenting to the outpatient department of Otorhinolaryngology & Head and Neck Surgery with auricular haematoma volunteered to participate in the present study. Most of these patients were in the age group of 25 to 50 with the exception of one 12 year old girl. Nine patients presented to the outpatient department within 24 hours of formation of haematoma. One patient, a 12 year old girl presented 5 days after haematoma formation. She had undergone repeated wide bore needle aspiration with bolster dressing. The skin over the swelling was discoloured. There was an organized haematoma. The commonest presenting symptom was swelling on the pinna and the commonest site of haematoma formation was the concha. Eight of our patients were construction workers and labourers. All patients were treated on daycare basis. All of them were treated using an unconventional bolsterless technique described below.

Local anesthesia was achieved using 2% lignocaine with 1:100000 adrenaline solution. Under aseptic precautions, a curvilinear incision was made along the antihelix and the haematoma drained. This was followed by mattress sutures through and through the pinna using 3-0 catgut. Minimum number of sutures required to hold the flap in apposition to the cartilage were applied. Usually 4-6 sutures were enough. No pressure bandage was applied. Antiseptic ointment was applied to the pinna. Oral antibiotics were prescribed for one week. The patients were discharged on the same day and called for follow up after one week, 15 days and one month post operatively. During follow-up, patients were evaluated for recurrence and the cosmetic results were documented.

3. Results

Of the 10 patients treated by this bolsterless technique, eight patients had excellent cosmetic

results and there was no recurrence during the one month follow up period. In the 12 year old girl who presented 5 days after the haematoma formation, though there was no recurrence, the discolouration of skin persisted and cosmetic results were not satisfactory. One patient defaulted after the first follow up at one week. During this visit there was no recurrence and the cosmetic appearance was good.

4. Discussion

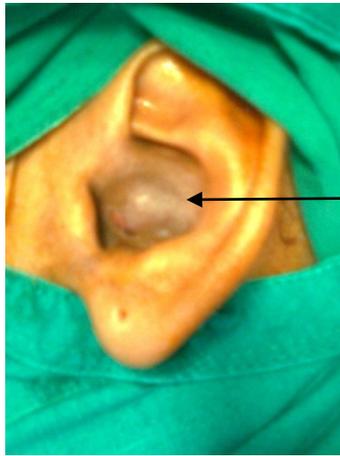
Auricular haematoma is the collection of blood between auricular cartilage and perichondrium. It is generally seen in contact sports where ear protection is optional or not required by the participants such as wrestling judo, rugby and boxing.³ It can occur spontaneously or in hypertensive patients due to degenerative changes in fibrous wall of blood vessels.^{4,5} It occurs on the anterior aspect of the pinna where the skin is adherent to the cartilage and there is lack of subcutaneous tissue.⁶ In our study too the commonest site of occurrence was on the anterior aspect of the pinna at the concha. If auricular haematoma is not treated properly, it can progress to abscess formation, chronic scarring and subsequent disfigurement of the auricle known as cauliflower ear.^{7,8} The goals of treatment therefore are to drain the haematoma, prevent reaccumulation of haematoma and restoring the normal appearance of the ear. Auricular haematoma treated by simple needle aspiration without compression is ineffective⁹ because it results in recurrence of the haematoma.¹⁰ During the second half of the 20th century, different treatments were developed, including various haematoma drainage techniques with special bandages to prevent haematoma recurrence and ensuring progression to cauliflower ear. Several methods have been used as compression techniques: plaster mould, thermoplastic splint,¹¹ cotton wool bolster casts,¹² Leonard buttons, hearing mould splint, dental silicone material, silicone rubber splint⁶ and dental roll splints.¹³ Many different techniques have been tried, simple needle

aspiration is uniformly unsuccessful and in addition, repeated aspirations are more likely to introduce infection leading to perichondritis,

cartilage necrosis and deformity. So, simple needle aspiration without any compression is not

Pre operative

Post operative



Haematoma



Haematoma



Haematoma



adequate for preventing recurrence.⁹ Re-accumulation rates are reduced if the aspiration is combined with application of external pressure. Henderson et al. described a technique that uses a rigid thermoplastic splints that moulds to the contours of the ear, allows adequate pressure over a broad area.¹⁰ Kubota et al. tried intralesional therapy with OK-432(which is used for the treatment of cystic hygroma) on 16 patients. Almost half of the patients had local pain at site of injection and fever.¹⁴ Bul and Lancer described a method of treatment under general anaesthesia involving an incision made on the posterior aspect of the pinna and 5 mm disc of cartilage excised, and after evacuation of the haematoma radibac suction drain then inserted.⁵ Koopman and Coulthard described a similar method which includes aspiration of haematoma with a large bore needle, sterile dental rolls impregnated in bacitracin ointment are moulded over the auricle both anteriorly and posteriorly in the area of the haematoma and sutured in place with silk.¹⁵ Sbaihat and Khatatebeh suggested use of dental roll splints for maintaining pressure.¹³ Roy and Smith advocated use of mattress sutures for treatment of auricular haematomas in martial artists and found good results.²

Our results too show that the bolsterless technique of treating auricular haematomas using through and through mattress sutures is a very effective method. Cosmetic outcome was excellent in eight out of 10 patients. There were no recurrences in all 10 cases. Bulky pressure bandages were avoided. Patient compliance was good. Since the procedure was done on day care basis the hospital stay was shortened. Repeated hospital visits for change of dressing was avoided. Overall patient acceptance was good and all of them were satisfied with the results.

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