

# A Novel Treatment of Suppurative Perichondritis / Aural Hematoma After Ear Piercing

M MUJEEB W AHMAD M M ALI

Department of ENT, Fatima Jinnah Medical College/Sir Ganga Ram hospital, Lahore  
Correspondence to Dr. Waseem Ahmad, Senior Registrar (e. mail: waseemdr@hotmail.com)

Auricular hematoma and suppurative perichondritis are seen in all age groups for several reasons. We are presenting a series of 15 cases (30 ears) of suppurative perichondritis of the auricle after ear piercing treated by button technique. As far as we know the button technique has never been used to treat suppurative perichondritis, though it has been used for management of auricular hematoma. All ears were first subjected to wide bore needle aspiration of the aural swelling to determine the nature of contents. Pus was aspirated in all cases, which were therefore subjected to incision, drainage and surgical debridement to remove necrosed cartilage. To abolish the dead space between the perichondrium and cartilage we applied coat buttons on each side of the auricle using 2/0 prolene suture. Twenty nine out of 30 ears recovered with almost normal shape of the pinna where as one ear had mild thickening of the auricle as a result of loose buttons. This treatment is very simple, very effective with almost 100% results and is very cost effective by reducing the hospital stay.

**Key words:** Auricular hematoma/suppurative perichondritis, buttons, ear piercing.

Auricular hematoma and suppurative perichondritis are not uncommonly seen in ENT practice because pinna is unprotected and prone to injury e.g. during boxing, wrestling and other sports. Other causes include road traffic accidents, ear surgery, burns, frostbite, coagulopathies and fashionable ear piercing. Traditionally ear piercing is done in fibrofatty tissue of the ear lobule. Nowadays, the fashionable ear piercing procedure is performed high on the pinna that traverses the cartilage and may result in suppurative perichondritis.

The unique shape of the external ear depends on the underlying cartilaginous framework. Suppurative perichondritis leads to cartilage necrosis, and pinna therefore shrivels up. In auricular hematoma on the other hand the contact of perichondrium to cartilage is disrupted by the collection of blood in the subperichondrial space that results in neo-cartilage formation and subsequent deformity<sup>1</sup>. The risk of infection is increased considerably when overlying skin is penetrated.

Early surgical intervention & antibiotic can prevent the main complications of aural hematoma/suppurative perichondritis. The principle of treatment is to evacuate the hematoma/abscess, remove the neo-cartilage/necrosed cartilage and granulations, and finally to obliterate the cavity and eliminate the dead space.

Sometimes simple aspiration is sufficient in few cases of auricular hematoma but Incision and drainage is required in all cases of suppurative perichondritis. The main problem with various surgical techniques is maintenance of contact of perichondrium with the cartilage. We used two coat buttons, one on each side of the pinna stitched together with 2/0 prolene suture, to obliterate the dead space between perichondrium and cartilage.

## Patients and methods

This study includes 15 cases, which were admitted in Sir Ganga Ram Hospital Lahore during the period of October 1998 to May 2001.

These patients were admitted through Out Patient Department with the complaints of pain and swelling of pinna. Ten out fifteen cases had bilateral involvement of the pinna, making a total of 25 ears.

All ears were first aspirated with wide bore needle under aseptic conditions and antibiotic cover. Pus was found on aspiration in all ears, which were therefore subjected to incision and drainage of the abscess under general anaesthesia with debridement of necrosed cartilage and granulation tissue. Abscess cavity was cleaned in all cases with Povidone-Iodine solution. This was followed by application of coat buttons (sterilised by keeping in cidex solution for 20 minutes) on both surfaces of the pinna and fixed with 2/0 prolene suture passing through button-pinna-button, i.e. sandwiching the pinna between the buttons. Thus the dead space between perichondrium and auricular cartilage was eliminated by accurate re-apposition of perichondrium to the cartilage. All patients were discharged on the second day on antibiotics and advised to return for removal of buttons on the seventh day. Patients were also instructed to report as soon as they had swelling, pain or discharge from the ear. During this period patients were allowed to do routine work.

## Results

Fifteen patients with suppurative perichondritis of the auricle were treated during two and a half-year period of study. Ten out of fifteen patients had bilateral involvement, so a total of 25 ears were treated by this technique. All 15 patients were females with an average age of 23 years. (Age ranging from 16 to 35 years) 10



patients out of 15 (66%) had bilateral involvement due to high ear piercing. Five patients (33%) had unilateral perichondritis. Mean hospital stay was one day. 24/25 ears (93.4%) recovered with excellent shape of pinna. One ear (6.6%) had mild deformity due to loose knot of the button.

### Discussion

Aural hematoma/suppurative perichondritis may result from blunt trauma, ear piercing, burn and coagulopathies. Fashionable ear piercing performed high on the pinna traverses the cartilage rather than the fibrofatty tissue of ear lobule, increases the risk of infection, especially if aseptic technique is not followed, which may produce severe deformity. All of our patients (100%) were females, 66% of them had bilateral suppurative perichondritis resulting from ear piercing performed high on the pinna. The aim of treatment is to prevent permanent deformity. Various techniques have been described in order to achieve this goal indicating lack of a dependable method. Aural hematomas are usually managed by aspiration and pressure bandage. However, the recurrence rate with this technique is very high with resultant deformity. Other problem with pressure bandage is that it cannot be applied for more than 48 hours because of the danger of necrosis of pinna. Incision and drainage with application of pressure dressing is also not very effective, as it frequently results in deformity of pinna. Schuller et al<sup>2</sup> sutured the pressure dressing to the auricle to treat wrestler's ears, reporting good results.

Martin et al<sup>3</sup> recommended use of drains after incision and evacuation of hematoma. In a study of 15 cases of perichondritis of the auricle Bassiouny<sup>4</sup> condemned the Stroads excision technique and recommended four weeks tubal drainage to be the method of choice for all cases of perichondritis. Four weeks treatment is obviously a protracted course for this condition. Moreover, it does not obliterate the dead space, works as a source of infection and leads to unsightly scar. Eliachar et al<sup>5</sup> have used continuous portable vacuum drainage for auricular hematomas after complete aseptic evacuation of the hematoma and blood clots. Though with this technique pressure dressings are unnecessary but the patient has to be hooked onto a suction apparatus.

The dental roll suture technique of John E. Clemons and Larry R. Severeid<sup>6</sup> seems to be appropriate approach to the condition but the contact area is not uniform. AU-Nahl et al<sup>7</sup> have described a modification of existing techniques for the treatment of auricular hematoma. Their method employs incision, drainage and the application of silicone rubber splints (Silastic) with satisfactory cosmetic result in all cases.

More recently, James M Henderson et al<sup>8</sup> have used thermoplastic splint for the treatment of auricular hematoma in a case. The approach is scientific as it provides a wide area of pressure for obliteration of the dead space but more cases need to be done in order for it to be an established technique.

Talaat et al<sup>9</sup> reported the use of buttons for management of auricular hematoma with 100% success. We had been using button technique for auricular hematoma for last three years and on having excellent results we extended its use to treat suppurative perichondritis. The advantages with this technique are that buttons are freely available and make accurate contact between the perichondrium and cartilage, thereby obliterating the dead space more effectively. The results are excellent, reliable and reproducible. In our study 24 out of 25 ears (93.4%) healed without any obvious deformity. We recommend this technique for all cases of suppurative perichondritis as it gives excellent aesthetic results, is very simple, reliable and cost effective while the patient is comfortable and can do his routine work.

### References

1. Ohlsen L, Skoog T, Sohn SA. The pathogenesis of Cauliflower ear: an experimental study in rabbits. *Scan J Plastic Reconstr Surg.* 1975; 9:34-39
2. Schuller DE; Dankle SD; Strauss RH AD. A technique to treat wrestlers' auricular hematoma without interrupting training or competition. *Arch Otolaryngol Head Neck Surg* 1989;115(2):202-6
3. Martin R, Yonker's AJ, Yarrington CT. JR. Suppurative perichondritis of the ear. *Laryngoscope* 1976; 86(5) 664-73
4. Bassiouny A. Suppurative perichondritis of the auricle. *Laryngoscope* 1981; 91(3) 422-31.
5. Eliachar I, Golz A, Joachims HZ, Goldsher M. Continuous portable vacuum drainage of auricular hematomas *Am J Otolaryngol* 1983; 4(2):141-3
6. John E. Clemons, Larry R. Severeid. Trauma. In Charles W Cumming, John M Fredrickson, Lee A. Harker,, Charles J. Krause, David E. Schuller, eds. *Otolaryngology Head and neck surgery*, second edn. Saint Louis, Missouri,. Mosby Year Book 1993:2865-2872.
7. AU- Nahl SS; Kent SE; Curry AR AD-SR- Treatment of auricular haematoma by silicone rubber splints. *J Laryngol Otol* 1989;103(12):1146-9
8. James M. Henderson, MD; Andrew R. Salalma, DDS; Remy H. Blanchaert, Jr. MD, DDS. Management of Auricular hematoma using Thermoplastic Splint. *Archotolaryngol Head and Neck Surg* 2000; 126(7): 88-890
9. Talat M. Treatment of auricular hematoma using button technique. *ORL J Otorhinolaryngol Relat Spec* 1985; 47:186-188