

Case Report

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Auricular Perichondritis Complicating Helical Ear Piercing

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Abstract

Auricular perichondritis is a dangerous complication of the traumatized ear that can lead to residual deformity. The most common pathogen is *Pseudomonas aeruginosa*, followed by *Staphylococcus aureus*. A 14 year old female presented to the emergency department (ED) complaining of pain and swelling in her right pinna for two weeks after an ear piercing, she was treated with antibiotics and showed a complete resolution. Prompt and early diagnosis of perichondritis is primordial to avoid potential esthetic sequelae.

Keywords: Auricular perichondritis; Ear piercing; *Pseudomonas aeruginosa*; Cauliflower ear

Introduction

Auricular perichondritis is a frightening complication of the traumatized ear that can lead to residual deformity. It usually starts in the helix and anti-helix but may involve the whole cartilage if treatment is withheld [1]. While *Staphylococcus aureus* is the most common organism causing skin infections, *Pseudomonas aeruginosa* is implicated as the major pathogen of perichondritis [2]. We present a case of perichondritis due to *Pseudomonas aeruginosa* following an ear piercing.

Case Presentation



Figure 1: Perichondritis in right ear.

A 14 year old female presented to the emergency department (ED) complaining of pain and swelling in her right pinna for two weeks after an ear piercing. Five days following the piercing, she noticed a swelling and redness that progressively worsened. Three days prior to her ED

visit she noticed pus discharge. On physical examination, the patient had tenderness, edema, bulging of her right pinna and a fluid collection that meant abscess formation on the upper third of the helix (Figure 1). The left ear was unremarkable. Tympanic membranes and auditory meatus were normal. The oropharynx was clear and there was no cervical lymphadenopathy. The remainder of the physical examination was within normal limits. The initial white blood cell count was $13.1 \times 10^9/L$ with $9 \times 10^9/L$ neutrophils. She was seen in the ED by an otolaryngologist who did an initial incision and drainage removing 3cc of sero-purulent drainage by needle aspiration and the specimen was sent for culture. The patient was admitted to the pediatric floor and was started on Clindamycin and Cefazolin. After 2 days, final culture result of the aspirate was positive for *Pseudomonas aeruginosa* (Pansensitive) and the antibiotic was switched to Levofloxacin. There was gradual clinical improvement and the patient was discharged home on Levofloxacin for 4 weeks. During the weekly follow up she showed a complete resolution of the swelling and pain.

Discussion

The ear is the most common site for body piercing and up to 35% of persons with pierced ears had one or more complications including infections, cleft earlobes, allergies, atopy and keloid formation. These piercings are associated with poor healing and more serious infection due to the avascular nature of auricular cartilage [1,3]. Piercing is usually carried out by non-authorized or untrained professionals, who use implant techniques learned in videos, magazines or through inexperienced instructors. They have no consensus on asepsis techniques, varying from Benzalkonium chloride (ineffective against *Pseudomonas*), ethylic and isopropyl alcohol to iodine solution (the best product to eliminate *Pseudomonas*) [4].

Perichondritis usually sets in during the summer time, when air and skin moisture is excessive, impairing healing and fostering the proliferation of the most common causal agent. The risk of developing an infection is higher in the ear cartilage than it is in the ear lobe [2,5].

The most common pathogen is *Pseudomonas aeruginosa*, followed by *Staphylococcus aureus*, but *Streptococcus*, *Proteus* and *Lactobacillus* species have also been identified as causes of auricular

perichondritis [6]. In our case the culture was positive for *Pseudomonas aeruginosa*.

Symptoms usually develop 3 days to 4 weeks after the ear piercing and include pain, erythema, edema, and abscess formation. The diagnosis is clinical and wound culture with antibiogram must be performed [5]. Fluoroquinolones such as ciprofloxacin are the treatment of choice for auricular perichondritis, since they show good antipseudomonal activity in addition to their antistaphylococcal effect. They also penetrate well into the cartilage [5,6].

Once an abscess develops, surgical incision and drainage are often necessary. However good cosmetic preservation of the auricular cartilage is then difficult to maintain as a deformity known as cauliflower ear frequently develops [2,5,6].

Conclusion

Although our treatment was successful, this case demonstrates the potential hazards of ear piercing. In auricular perichondritis, *Pseudomonas aeruginosa* must be considered as the probable cause of the disease and an empiric antipseudomonal therapy should be started while the culture is pending. The sooner the diagnosis is made, the less

aesthetic sequelae is seen, which can be limited to only a non-deforming hypotrophic scar. However, perichondritis can end with a very unsightly ear, which may eventually turn out to be beyond repair.

References

1. Prasad HK, Sreedharan S, Prasad HS, Meyyappan MH, Harsha KS (2007) Perichondritis of the auricle and its management. *J Laryngol Otol* 121: 530-534.
2. Davidi E, Paz A, Duchman H, Luntz M, Potasman I (2011) Perichondritis of the auricle: analysis of 114 cases. *Isr Med Assoc J* 13: 21-24.
3. Meltzer DI (2005) Complications of body piercing. *Am Fam Physician* 72: 2029-2034.
4. Folz BJ, Lippert BM, Kuelkens C, Werner JA (2000) Hazards of piercing and facial body art: a report of three patients and literature review. *Ann Plast Surg* 45: 374-381.
5. Pena FM, Sueth DM, Tinoco MI, Machado JF, Tinoco LE (2006) Auricular perichondritis by piercing complicated with pseudomonas infection. *Braz J Otorhinolaryngol* 72: 717.
6. Sandhu A, Gross M, Wylie J, Van Caesele P, Plourde P (2007) *Pseudomonas aeruginosa* necrotizing chondritis complicating high helical ear piercing case report: clinical and public health perspectives. *Can J Public Health* 98: 74-77.