Case Letter

Acute atraumatic pinna (auricular) perichondritis

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DOI: 10.5847/wjem.j.1920–8642.2018.02.013**Dear editor,**

Perichondritis of the external ear is referred to in the literature as pinna perichondritis as well as auricular perichondritis. Pinna (auricular) perichondritis is an infection involving cartilage and subcutaneous tissue. The resulting infection produces swelling which can be severe, and can lead to focal ear necrosis. The term perichondritis may even be considered a misnomer “as the cartilage is almost always involved.”^[1] Pinna (auricular) perichondritis presents with signs and symptoms that can include pain, erythema, and local warmth. The initial complaint is often a dull ache. The location usually starts in area of the helix and the anti-helix.^[1]

CASE

A 5-year-old male was brought to the emergency department (ED) by his mother for the evaluation of redness and swelling of the patient's left ear. The patient reported minimal pain and no associated pruritus. The swelling and redness was noted to be confined to the cartilaginous section of the ear (Figures 1, 2). The patient's mother reported that she noticed redness of the patient's left ear when the patient arrived home from school on the day of ED presentation. There was no history of any trauma, insect bites, piercings or instrumentation of the affected ear. The patient had no pertinent medical or surgical history. There was no known history of rheumatological, autoimmune, or allergic diseases. The external canal was normal on examination, with no evidence of otitis externa or of furunculosis of the external canal.

A consultation with the Otorhinolaryngology service was obtained in the ED. Oral antibiotics were ordered and outpatient follow up was arranged. Since there was no reported trauma, insect bites, piercings,

or prior instrumentations to the affected ear, coverage of the antibiotics was initially targeted towards skin flora with close out-patient follow and a plan to add antipseudomonal coverage if no improvement. The redness resolved fully within three days.

DISCUSSION

An inciting injury may occur 3 to 4 weeks prior to

Figure 1. Left ear showing redness and swelling of the auricle.

Figure 2. Left ear auricular redness with sparing of the lobe and tragus.

the start of the patient's symptoms. The most common overall mechanism is blunt trauma with a subsequent hematoma and secondary infection.^[1] However, penetrating trauma can be an inciting cause and may introduce an infection directly. Ear-piercing, especially involving punctures of the cartilage of the upper third of the pinna, have been linked to pinna panniculitis.^[2] Acupuncture of the ear has been related as a factor as well.^[3] In Prasad's series of 61 cases of perichondritis, the most occur with common factor was trauma. However his series identified such causes as furunculosis, malignant external otitis, leukemic infiltration, a burn etiology, an insect bite and a localized initial allergic reaction. It is noteworthy, that in Prasad's series, no cause was identified in 18% of the cases studied. Thus, it appears that frank damage to the cartilage "is not a necessary prerequisite for perichondritis."^[1] Davidi et al^[4] reported a series of 114 patients hospitalized for pinna (auricular) perichondritis—an inciting etiology could not be determined in over 50% of the cases. No inciting etiology was identified in the case presented.

The human pinna receives less humoral circulation which can lead to treatment failure and progression of the disease.^[5] Treatment however, consists of antibiotics and, if an abscess is present, surgical drainage. *Pseudomonas* is common causative agent and when present can be associated with a more advanced clinical presentation and a longer hospitalization.^[4] Hyperbaric oxygen treatment in diabetic patients with pinna perichondritis has been proposed.^[6] For perichondritis with hematoma formation, a treatment has been described in the literature involving needle drainage, irrigation and the installation of a solution of streptomycin, triamcinolone and hyaluronidase.^[5]

CONCLUSIONS

Pinna (auricular) perichondritis is an infection involving the cartilage and subcutaneous tissue.

Pseudomonas is common causative agent and when present can be associated with a more advanced clinical presentation and a longer hospitalization.^[4] There may be no evident inciting cause, as in this case presentation. Our patient improved with antibiotic treatment alone. Antibiotics coverage should be targeted to cover skin flora and *Pseudomonas*, and if an abscess is present, surgical drainage is also recommended to prevent ear disfigurement. For perichondritis with hematoma formation, a treatment has been described in the literature involving needle drainage, irrigation and the installation of a solution of streptomycin, triamcinolone and hyaluronidase.^[5]

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