

# Perichondritis due to a herpes zoster Infection after an Ear Piercing: a Case Report

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## ABSTRACT

Nowadays piercing has become one of the most popular fashionable and cultural customs and people of all ages are interested in this cosmetic procedure. One of the common sites of piercing is ears which, like any other piercing, can bring about many complications like infection, inflammation, allergic reaction, keloid formation, and traumatic tearing. In this paper, we report a case of perichondritis due to Staphylococcal secondary infection to a primary herpes zoster infection following ear piercing.

**Keywords:** Otosclerosis- Ear piercing, perichondritis, herpes zoster, Staphylococcus aureus, case report.

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## INTRODUCTION

Piercing has become very fashionable in last few decades. According to a study performed on 481 college students in New York, 42% of men and 60% of women have had their bodies pierced<sup>1</sup>. One of the most common sites of piercing is ears which, like any other piercing, can bring about many complications. Based on a study carried out in 1998, up to 35 percent of ear piercings caused at least one complication for the patient, ranging from minor infection (77 percent), allergic reaction (43 percent), and keloid formation (2.5 percent) to traumatic tearing (2.5 percent)<sup>2</sup>. Although these complications can be prevented, the risk surely augments if the procedure has been carried out by untrained personnel causing cartilage infection and perichondrial infection in which case should be treated as soon as possible<sup>3-7</sup>. In this paper we report a case of perichondritis due to Staphylococcal secondary infection to a primary herpes zoster infection following ear piercing.

## CASE REPORT

A 29-year-old woman was hospitalized due to erythema, swelling and inflammation of left earlobe with yellow pus excretion, alongside a severe pain in mandibular region. She gave a history of piercing her left ear about a month prior to the admission. As the signs firstly commenced about 2-week after piercing with erythema and inflammation of the earlobe, the patient visited a doctor and was treated initially with Coamoxiclav and Metronidazole for 10 days. For the signs started to worsen and a lesion emerged on the helix of the left ear, the patient was again visited by a doctor and a 12-day treatment with Cefazolin was prescribed. Yet, after using Cefazolin for 10 days, no sign of remission was observed. During a next visit 3 days before hospitalization, the patient was prescribed with Cloxacillin and Clindamycin. Since the signs continued to exist, the patient was admitted to the hospital. No previous history of neither diabetes nor collagen-vascular diseases was mentioned. Yet the patient mentions a history of migraine, cholestasis, appendectomy and a C-section surgery, none of which were recent. When admitted,

the patient was being treated with Coamoxiclav (TID), Metronidazole 500mg (BID), 10 doses of Cefazolin 1g daily, cloxacillin 500mg (QID), clindamycin 300mg (TDS) and Mupirocin ointment. At the time of admission, the patient was conscious and stable. Vital signs were normal (blood pressure= 110 mmHg/ 80 mmHg, pulse rate=72 beats/min, respiratory rate=16 /min, oral temperature = 37°C). The left earlobe was erythematous, swollen and tender to touch. A lesion of about 0.1\*0.5 cm was seen on the helix of the left ear. Cervical and posterior auricular lymph nodes were detectable and tender. There were no other symptoms found in physical examination. Laboratory studies showed: WBC=7100 /mm<sup>3</sup>, Hb=13.6 g/dl, Plt=305000 /m<sup>3</sup>, Creatinine=0.7 mg/dl, Urea=16 mg/dl, Na=134 mEq/L, K=4 mEq/L, INR=1, PT=13sec. In audiometry test a decrease in hearing high-pitched sounds was detected. Based on signs, symptoms and culture taken from the yellow pus excreted from the lesion, the patient was diagnosed with perichondritis with Staphylococcal infection secondary to a herpes zoster infection.

Therefore, Prednizolon, Tavanex 750mg, Valaciclovir 500mg, and Diprotop ointment was prescribed. Two days after initiating the foresaid treatment, the lesion stop excreting and lymphadenopathy started to heal. Finally, the patient was discharged from the hospital and was prescribed to continue using Tavanex 750mg, Valaciclovir 500mg, and Diprotop ointment regularly and immediately refer to a doctor if any problem accured. Since there aren't any records of patient's referral, we assume that the patient has been entirely treated Figure 1.

## DISCUSSION

Nowadays piercing has become one of the most common fashionable and cultural customs and people of all ages are interested in this cosmetic procedure. But despite all the beauty benefits, it may come with lots of complications<sup>8-10</sup>. At the top of the list, infections are the most common complication that may occur. Other frequent complications are bleeding, metal allergy, tissue trauma, scarring, deformities, and other complications



**Figure 1:** Patient with erythema, swelling, and inflammation of left earlobe with yellow pus excretion

based on the implant material, site, sterilization and, other factors<sup>8-12</sup>. An Infection could occur in two situations: first in using inappropriate instrument and technique and second in poor care of wound and post piercing protection<sup>13</sup>. Bacterial pathogens are more prevalent than viral and most reported cases declare *Staphylococcus aureus*, *Pseudomonas aeruginosa*, and *Streptococcal* species as a source of infection<sup>14-18</sup>. On the contrary, there are no firm reported cases of post piercing viral local infection although there are reported viral systemic infections especially viral hepatitis. Documents reveal that body piercing could be one of the transmission paths for the hepatitis B virus (HBV) and hepatitis C virus (HCV)<sup>19-21</sup>. Also, in 2009 Shaheen E Lakhan and Lindsey Harle reported a tongue piercing that comes with herpes simplex hepatitis which leads to fulminant hepatitis and at last death of the patient<sup>22</sup>. This case reported the first case of herpes zoster virus local infection and lymphadenopathy caused by ear piercing. Also, in this case there is a superinfection by *Staphylococcus aureus*. *Staphylococcus aureus* is a common pathogen in skin wound and injury since it is one of the skin microflora<sup>23</sup>. Also, bacterial superinfections, especially with *Staphylococcus aureus*, often happen after varicella infections due to damaged skin barrier and immunity<sup>24, 25</sup>. Although the patient has no complaints about hearing loss or tinnitus an audiometry test had been done to check out Ramsy hunt syndrome and results revealed a loss of hearing in the left ear. Ramsy hunt syndrome is a herpes neurological complication that happens when virus affects vestibulocochlear nerve and causes related signs including hearing loss, tinnitus, and vertigo. It also may cause facial nerve dysfunction and related sign and symptoms if it's covered. Corticosteroids and antivirals are used to treat these features<sup>26,27</sup>. In this case, treatment should cover both viral (herpes zoster) and bacterial (*Staphylococcus aureus*) infection. For viral infection, acyclic nucleoside analogs including Acyclovir, Valacyclovir (acyclovir prodrug), Famciclovir (prodrug of Penciclovir) are suggested antiviral drugs. Since oral acyclovir bioavailability is not considerable, Valacyclovir and Famciclovir are the better choices in adult patients<sup>28, 29</sup>.

## CONCLUSION

For bacterial infection sufficient antibiotics according to the secretion smear, culture and patient age should be prescribed. At last, it is highly recommended to refer to a specialized center which observes hygienic standards to prevent serious complication and adverse events.

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