

A CASE REPORT OF AURICULAR PERICHONDritis

Ni Putu Ayu Dewanthi¹, Lalu Aditya Haris Pratama²

¹General Practitioner, Patuh Patut Patju Hospital, West Lombok, Indonesia

²Otolaryngology, Head and Neck Surgery, Patuh Patut Patju Hospital, West Lombok, Indonesia

Corresponding author : Ni Putu Ayu Dewanthi¹, Lalu Aditya Haris Pratama² West Lombok, Indonesia
Email : dewanthyputri@gmail.com

ABSTRACT

Perichondritic is a Inflammation occur due to infection and also direct trauma to the ear, causing pus accumulation in the space between perikondrium and cartilage. Delay in diagnosis and treatment can lead to complications, one of them is a cauliflower ear. Management of Perichondritic is quite varied, but the main goal of treatment is to evacuate pus of the subperichondrial space, prevent recurrence, and infection. We reported a case of Perichondritic of a 28 years old man in Patut Patuh Patju Hospital-East Lombok, who had been treated by insision drainage, compression dressing technique and give good result.

Key word: *Perichondritic, cauliflower ear*

INTRODUCTION

Perichondritis is an inflammatory disease of the outer ear caused by an infectious process and direct trauma to the auricle leading to accumulation of pus in the space between the perichondrium and cartilage. In the early stages of infection, the pinna may become red and rubbery followed by generalized swelling and forming a subperichondrial abscess with pus collecting between the perichondrium and underlying cartilage. Delay in diagnosis and treatment can lead to complications, one of which is cauliflower ear.^{1,2}

The most common bacteria that cause perichondritis are *Pseudomonas aeruginosa*. *Staphylococcus aureus*, *Escherichia coli* and *Proteus* species, with *P. aeruginosa* as the most common causative species.³ Perichondritis is usually the result of secondary infectious disease of the ear after traumatic injury. In recent years, penetrating injuries to the ear such as acupuncture and cartilage piercing have become an increasing cause

of perichondritis. The cartilage itself is relatively avascular, and trauma through piercing further devascularizes the cartilage, making it a good medium for bacteria to thrive.^{4,5,6}

Perichondritis usually presents first as a dull pain that increases in severity, accompanied by redness and swelling. It may be accompanied by fever. The infection can start in the helices and anti-helices, and resembles cellulitis but the disease quickly worsens and involves the perichondrium.⁶ In severe cases, an abscess may develop, resulting in detachment of the perichondrium from the cartilage layer and necrosis of the cartilage and deformation of the ear, known as "cauliflower ear". If an abscess is found, surgical drainage with debridement of necrotizing tissue and intravenous broad-spectrum antibiotic treatment (third-generation cephalosporins, fluoroquinolones and nitroimidazoles) are required.^{3,7}

CASE ILLUSTRATION

Patient Mr. R, male, 28 years old, residing in Sekotong, West Lombok. On July 16, 2023 came to the ENT-KL polyclinic of RSUD Patut Patuh Patju complaining of pain and swelling in the right ear that had been felt since 2 months. Complaints felt increasingly aggravated since the last 2 weeks. A history of trauma occurred when the patient fell and hit the right ear before. After the trauma, a reddish lump immediately appeared and four days later it got bigger with a history of fever. On physical examination of the right auricle, there was a lump on almost the entire front auricle except for the lobule. The lumps were fluctuant, reddish in color, and accompanied by tenderness. The external acoustic canal and right tympanic membrane were not found to be abnormal. Ear examination and nasal and throat examination were within normal limits. Based on clinical and physical examination, the patient was diagnosed as dextra auricular perichondritis and drainage incision and pressure bandage were planned in the operating room of the Central Surgical Installation (IBS) under general anesthesia. Prior to the procedure, antibiotic therapy was given Levofloxacin 1 x 500 mg iv and norages analgesic iv 3 x 1 gram.

This pressure ultrasonography was performed using a 0.5 cm diameter plastic tube with a length of approximately 4 cm. The hose was tied with non-absorbable thread at both ends. The patient's right earlobe was disinfected with alcohol and a sterile dressing was applied. The most fluctuating area was made a drainage incision and obtained a yellowish liquid mixed with blood. Next, a plastic hose was attached with the aim of decompression, the thread at the end of the plastic hose was attached to the needle and the needle was inserted from the scapoid fossa to the posterior part of the earlobe and then the plastic hose was attached to the anterior and posterior parts and tied. The plastic tube is placed vertically and topical antibiotics are applied to the surface

of the earlobe and covered with sterile gauze. Postoperative therapy is levofloxacin 1x500 mg antibiotics, and norages iv analgesics 3 x 1 gram and the day after the action the patient is allowed to go home and control the ENT-KL polyclinic. Patients were given home medications, namely ciprofloxacin 2x500 mg orally and mefenamic acid 3x500 mg orally. On the 7th day after the action, the patient came to the ENT-KL clinic without complaints, the suture wound began to dry. On examination, no protrusion was found compared to the previous condition and the pain felt began to decrease. Subsequently, the plastic tube was removed on the 14th postoperative day.



Fig. 1 Before surgery. There was a lump on the right earlobe, fluctuant, reddish in color with tenderness.



Fig. 2 Pus drainage and compression of the pressure plate



Fig. 3 Patient after 7 days post-surgery

DISCUSSION

Perichondritis is an inflammation of the cartilage and ear that occurs when a trauma or inflammation causes effusion or pus between the perichondrium and cartilage layers of the outer ear.⁵ Perichondritis usually results from untreated or repeated trauma or infection to the earlobe. This is a bad situation because the perichondrium itself functions to bring blood flow to the cartilage. If the cartilage is deprived of blood supply in the long term, it will necrose and result in deformity of the earlobe called cauliflower ear.^{1,2,5}

The prevalence of perichondritis is not well described in the literature. In general, cases of perichondritis are increasing especially in athletes who have a high risk of trauma such as wrestling, boxing and martial arts. The highest prevalence is generally in men compared to women at 84%.⁷ Perichondritis can be caused by microorganisms with the most common cause being *Pseudomonas aeruginosa*. The most common predisposing factors are inadequate therapy for cellulitis of the earlobe (pinna) and acute otitis externa, Secondary infection from laceration or hematoma, trauma, and earring puncture in cartilage, *Streptococcus beta hemolyticus* septicemia may occur¹. This patient was found to have predisposing factors due to a history of previous trauma.

Common clinical symptoms of perichondritis are lumps, fluctuating, sometimes painful and disappearing auricular contours. In this case, a lump was found almost all over the right front auricle except for the lobe. The lumps were fluctuating, reddish in color, and through aspiration, red fluid with pus was found.

This is due to superficial infection from the external ear canal or from the auricle spreading deeper into the perichondrium. In what is called the early stage, the auricle (pinna) is red and painful and a subperichondrial abscess begins to form.¹

Surgical management that can be done is aspiration or drainage incision and followed by a pressure band to avoid the risk of recurrence.^{5,8,9} Based on a study conducted by Sbaihat on 45 patients with auricular hematoma in a military hospital in Jordan during July 2005-June 2009. The patients were randomly treated with 3 methods namely: 16 patients were treated with simple needle aspiration and plain compressive loading only, 18 patients were treated with drainage incision and plain compressive loading and 11 patients were treated with drainage incision, compressive loading and followed by suturing the auricle between two dental rolls. Of the three techniques, it was found that the third technique had the lowest recurrence rate compared to the other methods.⁸ Aspiration or drainage incision should be performed in a sterile environment to prevent recurrent auricular perichondritis.^{8,9}

Post-operatively, patients are given antibiotics and analgesics to reduce pain. In this case, quinolone antibiotics, namely levofloxacin, were given because they are suitable for the types of *Staphylococcus* bacteria and *Pseudomonas* sp.³ Removal of the tube or pressure bandage in this case was carried out after the wound appeared dry, namely on the 14th post-action day to prevent recurrence and the perichondrium could reattach to the ear cartilage.⁷ The treatment will give good results considering that the therapy is carried out immediately so as to prevent the occurrence of further complications, namely cauliflower ear.^{6,7}

CONCLUSIONS

A case of perichondritis in a 28-year-old male who underwent drainage incision and pressure bandaging has been reported. The diagnosis was based on a history of trauma to the right ear. At surgery, red fluid mixed with pus was found. The patient had a good outcome without complications such as cauliflower ear.

ACKNOWLEDGEMENTS

The author is pleased with all the nurses and supervisors of the North Lombok Hospital and Mataram City Hospital who have given them the opportunity to take the case

REFERENCES

1. Sosialisman, Alfian F, Hafil, Helmi. Kelainan Telinga Luar. Dalam: Soepardi EA, Iskandar N, penyunting. Buku Ajar Ilmu Kesehatan Telinga Hidung Tenggorok Kepala Leher. Edisi ke-6. Jakarta: Balai Penerbit FKUI; 2007. h.57
2. Adams G, Boies L, Hughler P. Boies: Buku Ajar Penyakit THT. 6th ed. Jakarta: EGC; 1997
3. Klug TE, Holm N, Greve T, Ovesen T. Perichondritis of the auricle: bacterial findings and clinical evaluation of different antibiotic regimens. *Eur Arch Otorhinolaryngol*. 2019 Aug;276(8):2199-2203. doi: 10.1007/s00405-019-05463-z. Epub 2019 May 11. PMID: 31079204.
4. Jung TTK, Jin TH. Diseases of the External Ear: Trauma to the External ear. Dalam: Snow JB, Ballenger JJ, penyunting. Ballenger's Otorhinolaryngology Head and Neck Surgery. Edisi ke16. Philadelphia: BC Decker Inc; 2003. h. 231-2.
5. Liu ZW, Chokkalingam P. Piercing associated perichondritis of the pinna: are we treating it correctly? *J Laryngol Otol*. 2013 May;127(5):505-8. doi: 10.1017/S0022215113000248. Epub 2013 Feb 26. PMID: 23442437.
6. Rivera-Morales MD, Rodríguez-Belén JL, Vera A, Ganti L. Perichondritis: Not All Ear Pain Is Otitis. *Cureus*. 2020 Oct 24;12(10):e11141. doi: 10.7759/cureus.11141. PMID: 33251051; PMCID: PMC7686808.
7. Patel BC, Skidmore K, Hutchison J, et al. Cauliflower Ear. Treasure Island (FL): StatPearls Publishing; 2023 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK470424/>
8. Sbaihat AS, Khatatbeh WJ. Treatment of Auricular Hematoma Using Dental Rolls Splints. *Journal of the Royal Medical Service*. 2011;18(2):22-5.
9. Giles WC, Iverson KC, King JD, Hill FC, Woody EA, Bouknight AL. Incision and Drainage followed by Mattress Suture Repair of Auricular Hematoma. *The Laryngoscope*. 2007;117:2097