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Preauricular Sinus Abscess Extending to Post Auricular with Comorbid Diabetes Mellitus: A Case Report

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ABSTRACT

Preauricular sinus is a congenital abnormality in the form of a cyst or fistula that occurs in the preauricular soft tissue. Preauricular sinus is usually asymptomatic, but it is very susceptible to infection that causes preauricular sinus abscess. One of the conditions that can worsen preauricular sinus abscess is diabetes mellitus. In DM patients, there can be a decrease in immune response function which can worsen the infection. This a case of a 54-year-old male patient came with swelling in the right ear accompanied by pain and fluctuating fever. The patient has a history of uncontrolled DM. During the examination, edema, hyperemia, tenderness and smelly pus were found in the earlobe and laboratory findings showed leukocytosis (23.94 x 103/µL) and hyperglycemia (285 mg/dL). The treatment given to the patient was in the form of excision and extirpation of the preauricular sinus and drainage incision of abscess and medication. After treatment, the infection subsided and the patient's condition improved. The occurrence of preauricular abscess extending to the post auricular is rare, the risk factor that may cause the infection to spread is because the patient has uncontrolled diabetes mellitus comorbidities. Management of preauricular abscess consists of performing excision of the preauricular sinus and incision of abscess drainage as well as administering antibiotics, analgesics and steroids to treat infection, prevent complications and recurrence.

Keywords: Preauricular Sinus, Abscess, DM

INTRODUCTION

Preauricular sinus is a congenital abnormality that occurs in the preauricular soft tissue, and was first described by Van Heusinger in 1864. Congenital preauricular sinus is an abnormality due to imperfect development of the first and second branchial arches that form the outer ear and middle ear, in the form of a cyst or fistula that occurs in the preauricular soft tissue. This abnormality is also called a preauricular pit, preauricular cyst or preauricular fistula. There are two types of auricular sinus, name the classic type and the variant type. The classic type is the preauricular sinus whose pocket is located in front of the external auditory canal, while the variant type is the auricular sinus whose pocket is located in the post auricular.[1]

The preauricular sinus is usually asymptomatic, isolated and does not require therapy, but the preauricular sinus is very susceptible to infection that can cause a preauricular sinus abscess. The infection can cause irritation, discharge or pus, edema,

pain, and if the sinus ostium is blocked, the pus will be collected and cause an abscess to form. This infection can also be complicated by spreading to adjacent structures such as the pinna, temporomandibular joint, and external auditory canal.[2,3]

Several conditions can aggravate the preauricular sinus abscess, one of which is diabetes mellitus (DM). Diabetes mellitus is a syndrome characterized by hyperglycemia caused by defects in insulin secretion, insulin action or both. Chronic hyperglycemia in diabetes is associated with long-term damage, dysfunction and failure of different organs especially the eyes, kidneys, nerves, heart and blood vessels. In DM patients there can be a decrease in immune response function which can aggravate infection.[4,5]

CASE PRESENTATION

A 54-year-old male patient came to the ENT clinic with a swelling in the right ear that had been felt for approximately a week. This complaint was also followed by the appearance of swelling in the back of the ear that appeared a day before going to the hospital. The swelling was accompanied by pain that was felt continuously. The patient admitted that he had previously cleaned the earlobe with a stainless-steel ear cleaning tool. Initially, the swelling appeared in the hole in the patient's earlobe, then it enlarged and a white odorous fluid appeared. The patient said that the hole had been there since birth. In addition to the above complaints, the patient also complained of feeling a fever that went up and down. The patient has a history of uncontrolled type 2 diabetes melitus.

From the examination of vital signs, the general condition was moderately ill, consciousness is compos mentis, cooperative, blood pressure 130/90 mmHg, and the temperature is 36.8^{0}C, pulse rate 88x/minute, respiratory rate 20 x/minute, with O_2 saturation 98%. The results of the ENT status examination on the left ear were within normal limits, on the right ear we found edema, hyperemia, tenderness and smelly pus on the earlobe, the ear canal was spacious, the tympanic membrane could not be evaluated, reddish swelling in the retroauricular, and the hearing tests for both ears were within normal limits. The examination of the nose and throat was within normal limits. A complete blood test was performed and found an increase in leukocytes 23.94 x 103/µL, platelets 691 x 103/µL, erythrocytes 4.90 x 106/µL, and the results of a random glucose examination were 285 mg/dL.

Figure 1. Condition of ear abscess with variant type preauricular sinus when the first time visiting ENT

Management of this patient is by performing excision of preauricular sinus extirpation and incision of abscess drainage and administration of medication. The procedure begins with a transtragal incision in the preauricular sinus area and tracing the infected area until it passes through the lower temporal area to the post-auricular area, and tracing the preauricular fistula. The absence of a sinus pocket is due to the possibility that the destruction process has occurred, then a thorough debridement is performed, and the surgical wound is cleaned and drainage is installed in the former preauricular and postauricular sinus areas.

The management of this patient was performed by extirpation excision of preauricular sinus and drainage incision of abscess and administration of medication. After the procedure, during treatment the patient received RL infusion therapy of 20 drops per minute, and given Cefotaxime 1gr

per 12 hours, Metronidazole 500mg per 8 hours, Methylprednisolone 125mg per 12 hours and Paracetamol 1gr per 8 hours. Consultation was carried out to the internal medicine department for the treatment of DM and consideration of giving anti-inflammatories and given additional therapy of Insulin Novorapid 3x14 units. The patient was treated for 3 days and was allowed to go home with a control care plan. During the control care after 1 week, significant improvements were found.

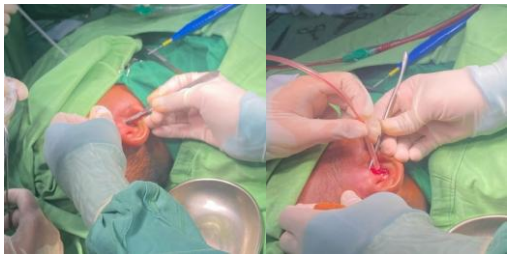

Figure 2. Excision of preauricular sinus extirpation and incision for abscess drainage

After the procedure, during the inpatient care the patient received RL infusion therapy of 20 drops per minute, was given Cefotaxime 1gr per 12 hours, Metronidazole 500mg per 8 hours, Methylprednisolone 125mg per 12 hours and Paracetamol 1gr per 8 hours. Consultation was carried out to the internal medicine department for the treatment of DM and consideration of giving anti-inflammatories and was given additional Insulin Novorapid therapy 3x14 units. The patient was treated for 3 days and was allowed to go home with a control care plan. During the control care 1 week later, significant improvements were found.

Figure 3. Ear condition 1 week after treatment

DISCUSSION

According to research, preauricular sinus abscess generally occurs in children aged 1-10 years (42.9%), 11-20 years (23.8%), 21-30 years (33.3%), but in this case it is relatively rare because the patient is 54 years old. Based on its location, it is found in the right ear (61.9%) more often than the left ear (28.6%), this is in accordance with cases where preauricular sinus abscess infection occurs in the right ear.[6,7]

In general, the classic preauricular sinus is known as a sinus whose pit is located in the area around the ascending helix in front of the external ear canal, as well as the variant type described by Choi et all that the variant type preauricular sinus is a sinus with a pit located posterior to the imaginary line connecting the tragus with the posterior side of the ascending helix. The sac is usually found in the posterior area of the auricle and often penetrates the cartilage, but the occurrence of variant type preauricular sinus is rarely reported. In this patient, a preauricular abscess that extends to the post-auricular is supported by the type of variant type sinus where the sac is located in the post-auricular, which is a rare occurrence, a risk factor that may cause widespread infection because the patient has comorbid diabetes mellitus. DM itself is known to worsen the condition of infection and increase the occurrence of complications.[4,7]

Management of preauricular abscess consists of medication and operative measures. The patient was given excision of preauricular sinus extirpation and incision of abscess drainage and then given antibiotics, analgesics and steroids by considering the patient's glucose levels that have been consulted to the internal medicine department. This is in accordance with the objectives and flow of preauricular abscess management, which are treating infection, preventing further complications and preventing recurrence.[8]

CONCLUSION

The preauricular abscess that extends to the post-auricular is a rare occurrence, a risk

factor that may cause widespread infection because of the diabetes mellitus. The objectives and flow of preauricular abscess management are treating infection, preventing further complications and preventing recurrence.

Declaration by Authors

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