A man with red pinna and yellow discharge

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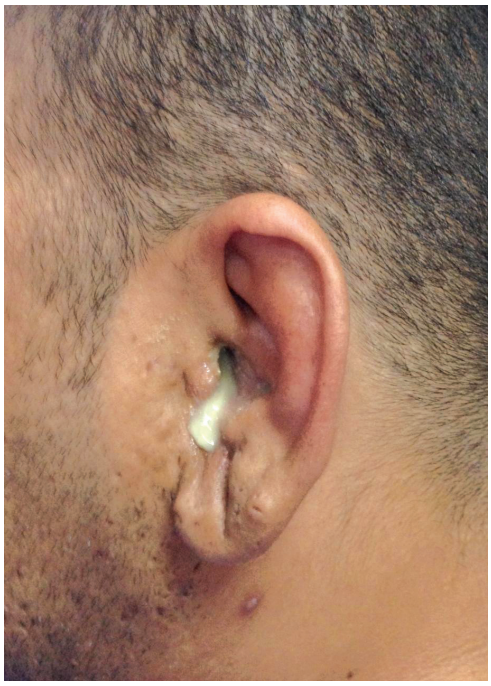
Case summary

A 38-year-old Malay gentleman, with no known medical illness, presented with the left earache and discharge for 4 days prior to admission. He also complained of reduced hearing and tinnitus over the left ear but no episode of vertigo. He initially had otalgia followed by ear discharge during the first medical consultation at a clinic. He was prescribed with oral amoxycillin-clavulanic acid 625 mg twice daily. Despite taking the medication, his condition worsened with the changes observed externally on the pinna. He gave a history of self ear-digging using metal stick into the left ear prior to these complaints.



Questions

1. What are the diagnosis and the risk factors?
2. What is the complication?
3. What should be done during the first presentation?

Answers

1. The diagnosis is left perinchondritis. The left pinna appeared inflammed sparing the ear lobule region. It was tender on palpation. There was pus discharging from the external auditory meatus.

   Otoscopic examination should reveal an inflammed and swollen external auditory canal. In its severe form, the ear canal may be completely stenosed and visualisation of more proximal structures including the tympanic membrane is unlikely. In our case, following aural toilet, the external auditory canal was oedematous and the tympanic membrane was unable to be visualised. This also explains the reduced hearing and tinnitus in the patient.

   The predisposing factor was faulty self-digging the ear canal in order to remove the wax. The instrumentation itself, plus the loss of canal protective mechanism (the skin and ear wax) are the predisposing factors to have otitis externa.[1]

2. The feared complication after a perichondritis episode is the development of the disfiguring cauliflower ear. The normal shape of the pinna will be distorted. The normal pinna is made up of cartilage with an overlying perichondrium, which gives blood supply to the cartilage and a tightly adhered overlying skin. Lifting the perichondrium off the cartilage either by oedema or any collection, such as pus or haematoma would lead to avascular necrosis to some part of the cartilage. Thus, the viable part post-infection will grow together with the fibrotic tissue causing a disfiguring external form of the ear. In this case, the ear lobule was spared because the area was deficient of cartilage. This is a typical feature of perichondritis.

3. In a patient presenting with ear discharge, ear toileting is the mainstay of treatment.

Even though the initial antibiotic provides good coverage for otitis externa infection, oral medication alone is not enough. Even if he was prescribed with topical ear drop, the effective contact surface of the instilled antibiotic with the infected area would not be optimised due to presence of the thick pus accumulated in the canal. The suboptimal treatment was the main reason of progression of the unresolved otitis externa to perichondritis. A patient with early sign of perichondritis should be closely monitored and admitted for observation of early complication, regular ear toilet on top of ensuring good compliance to antibiotics, both intravenous and topical to prevent further damage to the ear.

Upon admission, the patient was started on intravenous ciprofloxacin 400 mg twice daily and ear wick soaked with ofloxacin ear drop and prednisolone 0.12% inserted into the left ear. Ciprofloxacin is the drug of choice of a complicated ear infection, including perichondritis and malignant otitis externa. It is mainly due to of its penetration into the bone and cartilage, though the highest concentration can be found in the bile, lungs, kidney, gallbladder, uterus, seminal fluid, prostatic tissue and fluid, tonsils, endometrium, fallopian tubes and ovaries.[2]

The oral ciprofloxacin also provides a good absorption of 50%–80%[2] if the patient has been seen in an outpatient clinic or discharge upon resolution of the symptoms. In this case, his symptoms resolved after 4 days of changing the antibiotic.

In cases of severe swelling of the external auditory canal, it is advisable to insert an ear wick to facilitate the delivery of topical medications.[3] Once the ear wick is in place, the topical ear drops are placed on the external end of the wick to be distributed to the walls of the external auditory canal. The ear wick should be removed or changed after 2 to 3 days until the oedema subsides.

References

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