CASE REPORT

ACUTE LABYRINTHITIS SECONDARY TO AURAL TICK INFESTATION

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Abstract. Aural tick usually menisfests as intolerable otalgia. The severity of pain makes the patient to seek early treatment. Other uncommon symptoms include inner ear dyfunctions such as vertigo and tinnitus. The diagnosis is established by clinical examinaion either by otoscopic evidence of the tick itself, or its fecal remnant. We report a case of patient with acute labyrinthitis features with concurent otoscopic findings of tick fecal material.

Keywords: aural, tick infestation, labyrinthitis

INTRODUCTION

Aural tick infestation is a common phenomenon in tropical countries. It is the second most common athropod foreign body found in human ear canals (Indhudaran *et al*, 1999). The most common presentation is ear pain, which can sometimes be intolerable. Other reported presentations include facial palsy, an edematous ear canal and regional lymphadenopathy (Edussuriya and weilgama, 2003). However tick infestation causing inner ear dysfunction is rare. We report here such a case.

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CASE REPORT

A 69-year-old Malay woman with no previous medical history presented with sudden onset vertigo, tinnitus and pain in the right ear for one week. The symptoms worsened until she developed decrease hearing in the right ear and vomiting one day prior to admission. She had no preceding symptoms of viral upper respiratory tract infection. On examination she was alert and had normal vital signs. Otoscopic examination revealed multiple feces of a tick overlying her right tympanic membrane. No live tick was found. There was also noted to have nystagmus but no facial nerve palsy. Her left ear examination was normal.

Pure tone audiometry showed severe to profound right sensorineural hearing loss (Fig 1). The tick feces were removed by suctioning and she was prescribed

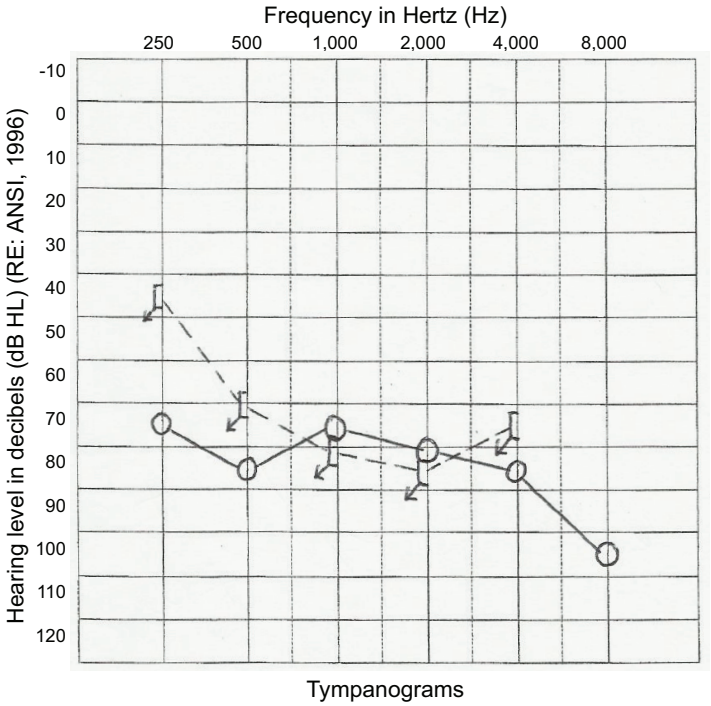

Fig 1–Right ear pure tone audiometry on presentation showing severe to profound sensorineural hearing loss.

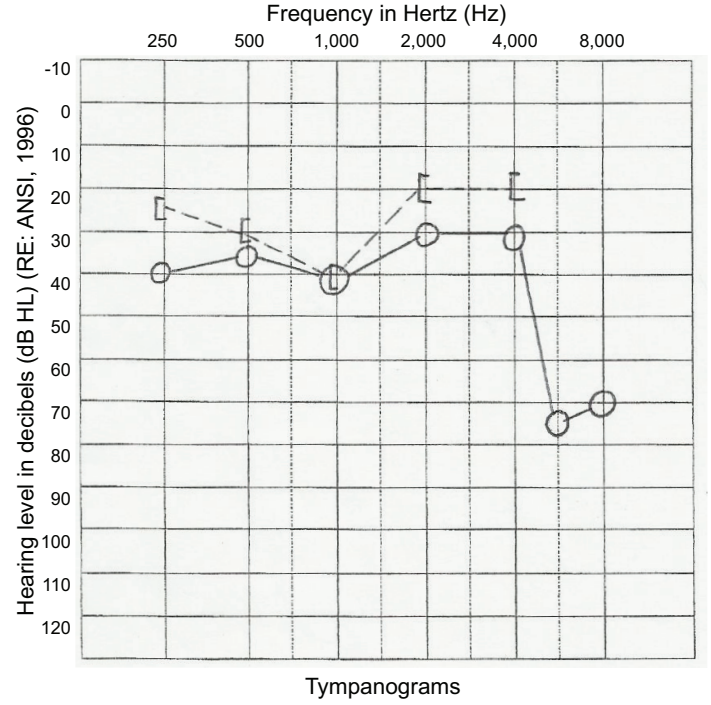

Fig 2–Right ear pure tone audiometry one month after treatment.

betahistine and methylcobalt. Her symptoms improved and she was discharge on those medications. Repeated pure tone audiometry one month later showed reversal of her symptoms (Fig 2).

DISCUSSION

Ticks can release a toxin from their salivary gland which can cause facial nerve palsy. The toxin can interfere with synthesis or release of acethylcholine from the motor end plate of the nerve (Vedanaryanan *et al*, 2004).

Acute labyrinthitis is the most likely cause of vertigo and tinnitus in this patient because the duration of symptom was one week. Vestibular neuronitis usually preserves the auditory function which was affected in this patient. Pure tone audiometry showed reduced hearing which had improved one month later. Since the onset of the symptoms occurred at the same time as the otalgia and the presence of tick fecal matter, we conclude the cause of the acute labyrinthitis was toxin from an aural tick bite. It is possible there was concomitant acute viral labyrinthitis but the patient had no other symptoms consistent with this diagnosis.

Aural tick infestation is diagnosed by either presence of the tick or tick fecal material in the auditory canal (Srinovianti and Raja Ahmak, 2003). Aural ticks should be managed the same as other foreign bodies in the ear. If the insect is still alive at presentation, lidocaine ear drops can be instilled in the ear to reduce discomfort and chloroform may be used to reduce insect motility (Fegan and Glennon, 1996). The tick should be removed complete with the mouth parts. The duration of the attachment is related to the risk for transmission of the infectious agents (Dalgic *et al*, 2010).

Aural tick infestation can present with otalgia, or may be accompanied by other symptoms, such as vertigo and hearing loss, due to the tick toxin. A high degree of clinical suspicion is important, especially when the insect is no longer present. Treatment should be carried out in a timely manner to reduce risk of other complications.

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