

Squamous cell carcinoma of the external auditory canal in a patient with non-resolving ear discharge

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Abstract

Discharging ear is a common symptom in the primary care and private general clinics. Most of the cases are treated with the antibiotic ear drops for otitis externa or otitis media. However, despite an adequate standard therapy, a malignant tumour can also be present with non-specific symptom such as ear discharge, especially in the case of persistent ear discharge. In this paper we have reported a case of an adult woman presented with non-resolving ear discharge who was treated repeatedly with antibiotic ear drop, which was later diagnosed as squamous cell carcinoma.

Introduction

Squamous cell carcinoma (SCC) of the temporal bone is rare, which accounts for less than 0.2% of all cancer cases in the head and neck area.¹ The most common symptoms of this malignancy are ear pain and discharge.² These symptoms are similar to those of chronic suppurative otitis media and otitis externa and therefore SCC is easily misdiagnosed. Late diagnosis of SCC of the temporal bone is common, which worsens the prognosis.³

Case report

A 55-year-old woman presented with 1-year history of discharge from the left ear. She was initially treated in a private clinic few times before she defaulted. Her symptom was associated with mild pain in the left ear, tinnitus and loss of hearing. One month ago she also had spontaneous bleeding from the left ear. She was treated with an antibiotic ear drop at a private clinic. On her subsequent visit to the private clinic with similar symptoms, she was given an antibiotic ear drop and referred to an otorhinolaryngologist for the follow-up treatment. She had no rhinitis symptoms.

On otoscopic examination, an exophytic mass occupying external auditory canal of left ear with minimal pus was observed. Her tympanic membrane was not visualised and no facial nerve palsy, mastoid swelling and tenderness were observed. Audiometric test showed left conductive hearing loss (Figure 1).



Figure 1. There is an exophytic mass occupying the external auditory canal of left ear and tympanic membrane cannot be visualised on otoscopic examination. (Consent was taken from the patient for photography.)

Biopsy of the mass from her left ear was done in the clinic. The histopathology examination of the biopsy showed invasive well-differentiated SCC with keratin pearls. The tumour cells were arranged in sheets and trabecular pattern. There was a mild nuclear pleomorphism. The diagnosis was SCC of the external auditory canal.

High resolution computed tomography (CT) scan of the temporal bone showed external auditory canal of left ear obliterated by soft tissue mass extending into left middle ear cavity, epitympanum and mastoid cavity. Inner ear structures and internal auditory canal were normal. According to modified Pittsburgh staging, she was at stage III of the temporal bone malignancy (Figure 2).

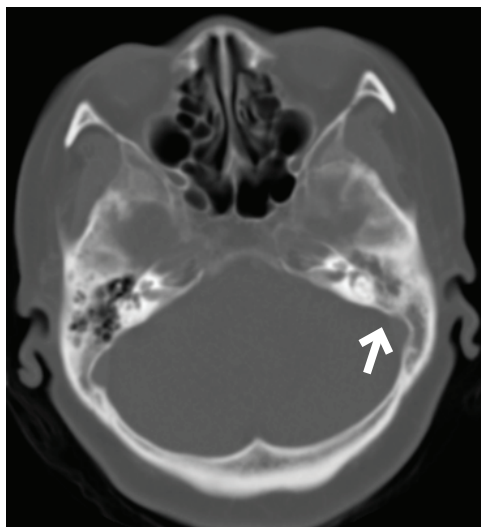


Figure 2. The CT scan showed sclerosed left mastoid cavity (*white arrow*) due to the extension of tumour from left external auditory canal into the middle ear and mastoid cavity

The patient went for left radical mastoidectomy with excision of left external auditory canal and pinna, superficial parotidectomy and reconstruction with pectoralis major myocutaneous flap. Superficial parotidectomy was done to remove the first echelon nodes draining the external auditory canal and as a routine component of surgical treatment of SCC of the temporal bone. After surgery, the patient was discharged and referred to an oncologist for postoperative radiotherapy

Discussion

SCC of the temporal bone usually spreads from external auditory canal skin.⁴ Periauricular soft tissues, the parotid gland, temporomandibular joint and mastoid are common sites of tumour progression. The carotid canal, jugular foramen, dura, middle and posterior cranial fossae are involve in advanced stages.⁵

SCC of the temporal bone has a slightly higher prevalence in women than men.⁶ The median

age at presentation of SCC of the temporal bone is in the seventh decade.⁷ The clinical features of SCC of the temporal bone are non-specific. Therefore, most of the cases were misdiagnosed, especially in the early stages. The most common misdiagnosis is otitis externa; others include chronic suppurative otitis media, granulation in external auditory canal, cholesteatoma and papilloma.⁸

This patient was thought to have chronic suppurative otitis media initially and was repeatedly prescribed an antibiotic ear drop by the medical doctor in the private clinic. The presence of ear bleeding can be due to granulation tissue in the external auditory canal. This tumour is often associated with chronic otitis media and exposure to radiation therapy.⁹ In case of non-resolving ear discharge, especially with the presence of external auditory mass, there must be a suspicion towards the possibility of malignancy.

Some suggest to do biopsy in patients with longstanding ear infection, who are not responsive to standard therapy.^{1,2} Biopsy must not be superficial, as this may lead to misdiagnosis. The reliability of biopsy depends on the location and depth of the specimen collected.⁸

Due to the rarity of the SCC of the temporal bone, developing an adequate staging system and treatment is difficult. To date, modified Pittsburgh staging system is used for staging purpose.¹⁰

The preferred treatment for this tumour is the en bloc surgical resection of the primary tumour with tumour-free surgical margins, postoperative chemotherapy and radiotherapy. Poor prognostic factors include extent of disease at presentation, dural and cranial nerve involvement, facial nerve paralysis and positive margin.⁹

Conclusion

Every physician must be suspect temporal bone malignancy, especially in longstanding ear infection that does not respond to standard therapy. Biopsy must be performed and additionally, imaging should be done to see the extension of the tumour.

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