



## Necrotising Otitis Media: Primary Presentation Leukaemia in Adult Patient

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DOI: 10.31080/ASOL.2023.05.0517

Received: November 14, 2022

Published: December 12, 2022

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### Abstract

Acute necrotising otitis media is a highly virulent middle ear infection causing necrosis of the tympanic cavity. Here is a case report of 44 year old male who presented with right ear acute necrotising otitis media. The patient was aggressively treated with intravenous antibiotics and was incidentally diagnosed with an underlying immunocompromised state.

**Keywords:** Acute Necrotising Otitis Media; Antibiotics; Facial Palsy

### Abbreviations

ANOM: Acute Necrotising Otitis Media; T-ALL: T Cell Acute Lymphoblastic Leukaemia

### Introduction

Acute necrotising otitis media is a highly virulent middle ear infection which leads to necrosis of the tympanic cavity. ANOM is still a possibility in modern antibiotic era and a high clinical suspicion should be kept while treating these patients for some underlying immunocompromised state. Literature reports cases of ANOM in infants [3,4] but very few adult cases [1] have been reported. Here a rare case of ANOM with grade V facial palsy and leukaemia is presented which was managed conservatively with intravenous antibiotics. The purpose of the case report is to emphasize the existence of ANOM in modern antibiotic era, need for urgent diagnosis and aggressive treatment to prevent dreaded complications like permanent hearing loss, facial nerve palsy. Also a strong suspicion should be kept for an underlying pathology.

### Description

44-year-old male presented to ent opd with the complaints of sudden onset right ear ache associated with profuse,

mucopurulent, blood-tinged, foul-smelling ear discharge not resolving with medications for 3 weeks' duration, associated with impairment of hearing on the same side, which was insidious and non-progressive. Three days following the ear ache, he also developed insidious onset right facial nerve palsy grade 5 lower motor neuron type, with one episode of mild vertigo lasting for a few minutes which resolved by itself. On examination, left ear was found normal. The right ear showed a normal pinna with oedematous external auditory canal, sloughed off skin, near-total perforation of the tympanic membrane through which the remnant of the handle of malleus could be seen with no middle ear mucosa and an exposed promontory. Rinne's was non-reactive on the right side and positive on the left side with a 512 Hz tuning fork and Weber was lateralized to left with no spontaneous nystagmus. Pure tone audiometry was suggestive of right sided profound hearing loss and left ear mild sensorineural hearing loss. Pus culture sensitivity showed E.coli sensitive to meropenem. He was started on iv meropenem, eye care, and antibiotic ear drops. HRCT temporal bone was suggestive of soft tissue density in the right mesotympanum, hypotympanum, with intact ear ossicles and deficient tympanic segment of the facial nerve canal. CE-MRI Brain didn't show any intracranial complication.

His routine blood picture had 90% blasts (TLC-21,770, Neutro- 4.4%, Lympho- 89.3%, Baso- 0.4%, Eosino- 0.9%). Acute leukaemia was suspected and patient was advised flow cytometry. Peripheral smear showed 88% blasts and small mature lymphocytes. Bone marrow also revealed near replacement by blasts. Flow cytometry suggested the diagnosis of- T-ALL.

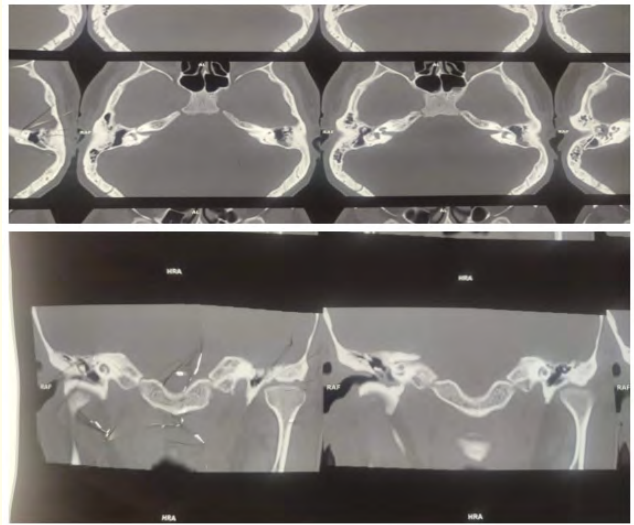
Regular suction of the ear discharge and aural toileting was carried out. Patient was discharged on topical ear drops, oral antibiotics, Allopurinol and chemotherapy was planned. Ear discharge reduced significantly in one week, minimal EAC oedema with necrotic slough was present but there was no improvement in facial palsy and hearing.



**Figure 1:** Otoscopic examination of the Right ear with acute necrotising otitis media showing EAC edema, exposed promontory and ossicles.



**Figure 2:** Grade 5 LMN right sided facial nerve palsy.



**Figure 3:** HRCT Temporal bone.

**Discussion**

Acute necrotising otitis media is a highly virulent middle ear infection causing necrosis of the tympanic cavity. It was far more common in the pre-antibiotic era than it is today [1]. Classically occurs in critically ill and immunocompromised infants and children. The most common organism isolated is Beta-hemolyticstreptococcus [2]. In literature two cases of ANOM in infants are reported [3,4] and one case was reported in adult [1]. In our case, history was atypical as the patient was an adult male with no co- morbidity and E.coli was isolated on culture sensitivity. Pain and otorrhea significantly reduced with antibiotic treatment. Post antibiotic treatment, there was no improvement in facial nerve function and hearing status. He was found to have underlying acute leukaemia which predisposes an individual to have an immunocompromised state. He was started on tablet Allopurinol by hematology and discharged in satisfactory condition and was planned for chemotherapy but he presented to emergency after one month with fever, shortness of breath, and succumbed to the disease probably secondary to acute leukemic blast crisis.

**Conclusion**

Early diagnosis based on history and clinical examination is required. Always consider an underlying immunocompromised condition in a patient with such a fulminant course of the disease. Timely and aggressive management has to be done to prevent the

dreaded complications and sequelae like facial nerve palsy and hearing loss [3]. Debridement and Culture directed antibiotic is preferred [3] over surgery- unless a complication indicates early surgical intervention.

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