

Acharya R  
Tulachan B

Ganesh Man Singh Memorial Academy  
of ENT and Head & Neck Studies,  
Institute of Medicine (IOM),  
Maharajgunj, Kathmandu

**Correspondence to:**

Dr. Rabin Acharya  
Ganesh Man Singh Bhawan,  
Ganesh Man Singh Memorial Academy  
of ENT and Head & Neck Studies, IOM  
Maharajgunj, Kathmandu, Nepal  
e-mail: 0rlhns52@hotmail.com

## ACUTE MASTOIDITIS WITH FACIAL NERVE PARALYSIS IN ACUTE MYELOID LEUKEMIA

Patients of acute myeloid leukemia very rarely present as otomastoiditis with facial nerve paralysis. This is still rare for FAB M1 variety of leukemia. We report a case of twenty two years old male who presented as mastoiditis with facial paralysis and later diagnosed as a case of M1 variety of leukemia. This is one of the rare cases and reported for its important clinical significance.

**Keywords:** acute mastoiditis, facial nerve paralysis, myeloid leukemia.

### INTRODUCTION:

Acute myeloid leukemia is an aggressive type of haematological malignancy characterized by abnormal proliferation of white blood cells and their precursors. Extramedullary deposits of leukemic cells in different parts of the body is not unusual. But otological manifestation of AML causing mastoiditis with facial nerve paralysis is rare.

### CASE REPORT:

Twenty two years old male patient presented to ENT out patient department of Trivuvan University Teaching Hospital with the complain of right earache for 1 month, right ear discharge for 1 month and facial deviation towards left side for 10 days. On examination of right external auditory canal, there was sagging of posterosuperior canal wall, which was obscuring the visualization of tympanic membrane. The skin overlying the right mastoid was erythematous, on palpation mastoid tenderness was present. Rinne test was negative and there was grade four facial nerve palsy on the right side.

**Fig 1:** Erythematous skin overlying the mastoid in retroauricular region

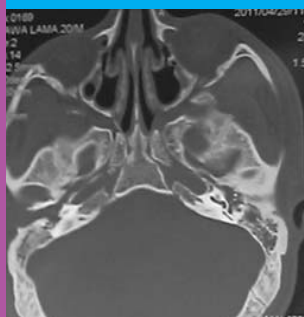


**Fig 2:** Patient showing House Brachman Grade IV right sided Facial nerve paralysis

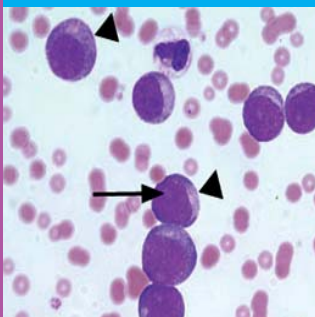


The case was clinically diagnosed as a case of acute otitis media with complication and kept on conservative management. High resolution CT scan of temporal bone revealed soft tissue density obliterating the mastoid air cells system. The patient was persistently found to have low haemoglobin and there was no improvement even

**Fig. 3:** Axial CT Scan of Temporal bone showing soft tissue density occupying the rt middle ear and mastoid air cell system.



**Fig. 4:** Bone marrow aspiration cytology showing premature blast cells (Arrow)



after a week. Bone marrow biopsy was taken and the case was diagnosed as acute myeloid leukemia, M1 Variety. With multi agent chemotherapy, mastoiditis resolved completely with partial improvement of facial paralysis.

### DISCUSSION:

Different forms of leukemia may affect the ear usually middle ear and rarely the inner ear as well. Otological complications occur almost invariably in those patients with the acute forms, particularly acute lymphocytic leukemia. The changes seen in the temporal bone could be due to leukemic infiltration, haemorrhage or infection<sup>1</sup>. Leukemic infiltration occurs in the mucoperiosteum of tympanomastoid compartment. Spread along the mucous membrane folds, ossicles and the sheaths of the tendons of intratympanic muscles has been found. Infiltration into the bone marrow spaces of petrous apex and into the inner ear are uncommon. Cranial neuropathies especially of facial nerve could be due to leukemic infiltration of central nervous system. Acute otomastoiditis subsequent to leukemic deposits in the temporal bone may also be implicated with facial nerve paralysis, however they are extremely rare as the presenting signs of the disease.<sup>2</sup> Facial palsy in lymphoid malignancies has been reported

in the medical literature.<sup>2</sup> However, there are only a few reports where children with myeloid leukemia have presented with facial palsy. Granulocytic sarcoma, a form of extramedullary deposition of leukemic cells, has been found more commonly in myelogenous leukemia FAB M24. Chloroma can arise at any site but is most commonly found in temporal bone in 50 percent of the cases.<sup>5</sup>

#### CONCLUSION:

Otomastoiditis with facial nerve paralysis is an uncommon presentation of acute myeloid leukemia, more so with FAB1 type. In patients of acute leukemia, metastasis to temporal bone should be considered when peripheral facial paralysis is present. Contrast Computed tomography of the temporal bone is considered mandatory to rule out neoplastic infiltration.

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