

Malignant Otitis Externa

Malignant Otitis externa (MOE) is a life threatening, progressive bacterial infection of the external auditory canal (EAC), mastoid and skull base. It most commonly occurs in elderly diabetics or in an otherwise immune compromised host. In nearly all cases *Pseudomonas aeruginosa* is the causative organism(1,2). We report a case of malignant otitis externa caused by *Enterobacter* in a 10 month old immunocompetent infant.

A 10 month old girl, second sibling of non consanguineous parents, presented with complaint of purulent ear discharge from left ear since 2 months, intermittent fever of 100 – 101°F and deformation of left ear since 1 month. There was no history of trauma or ear picking. Patient had already received 10 days of parenteral and local antibiotics with no response.

The girl was well nourished, had mild pallor and was febrile and irritable. The left ear was deformed with necrotic material seen all over the left external ear. On examination granulation tissue was seen occluding the external ear with erythema surrounding the pinna (**Fig.1**). Tympanic membrane could not be seen. There was no abscess collection on the surrounding areas and mastoid tenderness was not present. There was no cranial nerve palsy or other intracranial complication. CT scan of left temporal bone showed destruction of complete cartilageous and some bony part of external auditory canal with secondary opacification of mastoid air cells. Right side was normal.

Pus culture from ear swab revealed *Enterobacter* species after which antibiotics were modified according to sensitivity pattern. Local treatment with normal saline compresses were given. Fever and erythema subsided within 1 week. There was narrowing of the opening of the external auditory canal for which stent was placed to prevent complete

closure. Patient was discharged after 3 weeks of parenteral antibiotics on oral antibiotics for 3 more weeks. Reconstruction of the deformed external ear was planned at a later date.

The diagnosis of malignant otitis externa is by two criteria: obligatory and occasional. The obligatory criteria are pain, edema, exudates, granulations, micro abscess (when operated), positive bone scan or failure of local treatment for more than 1 week, and possibility of *Pseudomonas* in culture. The occasional criteria include diabetes, cranial nerve involvement, positive radiograph, debilitating condition and old age(3). Our patient fulfilled the obligatory criteria.

Although rare, malignant otitis externa has been reported in children with diabetes and other immune compromised states(4,5). Complications include necrosis of the tympanic membrane, stenosis of EAC, auricular deformity and sensorineural and conductive hearing loss. Isolation of *Enterobacter* has not been reported earlier. Prolonged treatment with sensitive antibiotics is recommended for 6 to 8 weeks. Inadequate treatment can lead to recurrence of disease. Quinolones are generally avoided. Treatment can be guided by monitoring ESR and Gallium scans(6).



FIG.1 Malignant Otitis Externa: Markedly deformed left ear with granulation and purulent tissue occluding the external ear.

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REFERENCES

1. Meltzer PE, Kelemen G. Pyocyanous osteomyelitis of the temporal bone, mandible and zygoma. *Laryngoscope* 1959; 69: 1300-1316.
2. Midwinter KI, Gill KS, Spencer JA, Fraser ID. Osteomyelitis of the temporomandibular joint in patients with malignant otitis externa. *J Laryngol Otol* 1999; 113: 451-453.
3. Cohen D, Friedman P. The diagnostic criteria of malignant external otitis. *Laryngol Otol* 1987; 101: 216-221.
4. Paul AC, Justus A, Balraj A, Job A, Kirubakaran CP. Malignant otitis externa in an infant with selective IgA deficiency: a case report. *Int J Pediatr Otorhinolaryngol* 2001; 60: 141-145.
5. Sobie S, Brodsky L, Stanievich JF. Necrotizing external otitis in children: report of two cases and review of the literature. *Laryngoscope* 1987; 97: 598-601.
6. Carfrae MJ, Kesser BW. Malignant otitis externa. *Otolaryngol Clin North Am* 2008; 41: 537-549.

Recurrent Breath-Holding Spells With Infantile Colic

Breath holding spells are stereotypical episodes of brief, involuntary cessations of breathing with cyanosis and hypoxia that may occur in children in response to stimuli such as anger, frustration, fear, or injury. Typically, they occur between 9 months to 3 years with a peak incidence at about 2 years(1). As the child matures and his understanding develops, these episodes decrease in frequency and ultimately disappear. We report the rare incidence of recurrent breath-holding spells in a one-month old child with severe infantile colic.

A one-month-old first-born boy of a non-consanguineous marriage presented with an episode of sudden high-pitched crying followed by apnea and central cyanosis. There were no perinatal complications. He was fed with expressed breast milk and formula. The infant was being treated for with infantile colic with carmicide, dimethicone, dicyclomine and occasionally sedatives. There was no history suggestive of convulsions, recurrent vomiting or regurgitation suggestive of gastro-esophageal reflux. Physical examination was within normal limits. The history was typical of a cyanotic breath-

holding spell. However, in view of atypical age group, a 2D-echocardiography was done to rule out any cardiac cause, which was normal. Domperidone was started to combat any gastro-esophageal reflux. The parents were counseled. However, the child had 2 more similar episodes in the next 2 days. Hemoglobin, CBC, serum electrolytes, BUN, creatinine, ammonia, and ABG were normal. EEG and MRI Brain were normal. Thus, after ruling out other possibilities, a diagnosis of recurrent breath-holding spells was made. Parents were counselled. Iron was not given. On regular follow-up till six months of age, there are no further episodes in the child.

It is hypothesized that breath-holding spell occurs due to autonomic nervous system dysregulation(2, 3). This child suffered from severe infantile colic, which caused recurrent crying that was difficult to console. It is possible that autonomic dysregulation could be a common factor for infantile colic and breath-holding spells. There is no report of an association between recurrent breath holding spell with infantile colic. Though, breath holding spells *per se* are described in newborns(4,5).

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