



Bilateral Otomastoiditis in a 8 Month-Old Child with Orofacial Cleft

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Introduction

Acute mastoiditis is the most frequent complication of acute media otitis in the pediatric population. The frequency has decreased with the arrival of antibiotherapy to treat acute media otitis. The most common germs in cause are *Streptococcus pneumoniae*, *Streptococcus pyogenes*, *Pseudomonas aeruginosa*, *Haemophilus influenzae* and *Fusobacterium necrophorum* [1].

Subperiosteal abscess is a known evolution of acute oto-mastoiditis; it affects more frequently children under 4 years old (with a mean age of 34 months) and usually affects one side [2].

In most of the cases, patients had a history of acute media otitis with fever, otalgia and mild transmission hearing loss. Retroauricular abscess is suspected when retroauricular oedema, auricular proptosis or retroauricular erythema appears. It can even be revealed by predominant symptoms of complication as meningitis, facial nerve palsy or focal neurologic sign.

Case Report

An 8-month girl with bilateral cleft lip and palate was sent to our department for suspicion of mastoiditis presenting with bilateral retroauricular erythema and swelling without fever. She had lip surgery already.

Clinical examination showed bilateral acute media otitis and no fever. Temporal bone CT scan shows bilateral middle ear effusion without bone complication traducing otomastoiditis (Figure 1).

Axial enhanced CT scan demonstrated bilateral subperiosteal abscess appearing as hypodensities with peripheral enhancement, larger on the left side. No intracranial complication was found (Figure 2).

She was treated with bilateral ventilation tube of the tympanic membrane associated with surgical drainage of the larger abscess (on the left side) and needle aspiration of the contralateral side. Three days intravenous antibiotherapy was given with amoxicillin and clavulanic acid leading to a decrease of the symptoms followed by eight days of oral switch therapy. Identified germs were *Staphylococcus epidermidis* and *Streptococcus intermedius* for both sides.

Clinical evolution was fine with no recurrence after a one year follow-up.

Discussion

Orofacial clefts are congenital malformation characterized by incomplete fusion of the hard palate or superior lip, sometime both. This condition is a well known cause of bilateral recurrent otitis media.

Unfortunately, despite surgical reparation of the palate cleft, velar insufficiency and tubar dysfunction remains common, often requiring prophylactic treatment with ventilation tubes and regular examinations to early diagnose tympanic retraction and emergence of cholesteatoma.

Mastoiditis was the most frequent complication of acute otitis media before the antibiotics era. It seems important to remind that clinical presentation of subperiosteal abscess is heterogenous, and does not always include fever or local signs.

Middle ear and brain CT scan with enhancement is the most efficient imaging investigation to diagnose subperiosteal abscesses with 97% sensitivity even at early stages and detect other complications [2].

It reveals an opacification of middle ear and mastoid cells, also called otomastoiditis. It detects brain abscess, lateral sinus thrombosis, subperiosteal abscess and mastoid bone erosion.

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Figure 1: Axial temporal bone CT scan showing bilateral middle ear and mastoid effusion (Black arrows).

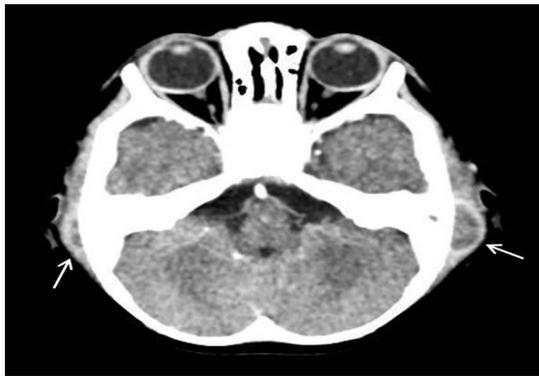


Figure 2: Axial temporal enhanced CT scan showing bilateral mastoid subperiosteal abscess (White arrows).

Bilateral subperiosteal abscess is an extremely rare presentation, in 2012, Hathorn reviewed 6 cases of bilateral subperiosteal abscess and concluded to the efficiency of bilateral cortical mastoidectomy with fine outcomes (except for atypical germs) all treated with different antibiotics [3].

To our knowledge, this is the first reported case of bilateral subperiosteal abscess of very young child with history of orofacial cleft.

Admitted therapeutic strategy of mastoid subperiosteal abscesses, with no intracranial complication or suspected *Fusobacterium* infection, consists on a conservative treatment associating bilateral middle ear drainage with ventilation tubes and needle aspiration or surgical abscess drainage [4].

Even though aggressive, mastoidectomy is the most efficient treatment in the complicated cases mentioned above.

There are no existing series comparing these two treatment strategies in bilateral subperiosteal abscesses.

Finally, we can ask ourselves whether bilateral subperiosteal abscess of mastoid is a complicated entity and therefore should be treated with primal bilateral mastoidectomy or can it be managed with the usual combined treatment.

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