Pre-admission antibiotic therapy and its effect on outcome in paediatric patients with acute mastoiditis

Nikoletta Skalidi¹, Stephanie King¹, Mitul Patel², Konstance Tzifa¹
1. ENT Department, Birmingham Children’s Hospital
2. Microbiology Department, Birmingham Children’s Hospital

**Conclusion:** Preadmission antibiotic therapy does not influence the clinical outcome in children with acute mastoiditis, including children <2 years of age. High CRP values do not predict a worse outcome. Delay in treatment of acute otitis media resulted in worse outcome.

**Background:** There is concern that restriction of antibiotics in primary care may lead to more complications of acute otitis media.

This study aims to investigate the effect of preadmission antibiotic therapy on prognosis in paediatric patients with acute mastoiditis and the differences in morbidity in patients less than two years old.

**Methods:** Records from Birmingham Children’s Hospital admissions database, from 2012-2016 inclusive, with diagnosis of acute mastoiditis were retrieved and reviewed retroactively.

The data were analysed for duration of symptoms, preadmission antibiotic therapy, laboratory results, complications and duration of hospitalisation.

**Results:**
- Out of 77 patients, 41.5% received antibiotics before admission while 58.5% did not.
- Preadmission antibiotics did not influence clinical outcomes (need for surgery or neurological complications) (p=0.915) nor length of hospitalization (p=0.336) (Fig 1).
- No significant difference was found regarding clinical outcomes and complication rates in the age group of 0-23 months and 2-16 years (p= 0.928 and p= 0.657 respectively) (Fig 2).
- Delayed treatment in primary care was associated with complications, with higher significance in patients >2 yrs (p=0.021 and p=0.003 respectively) (Fig 3).
- High CRP values were observed in patients who had preadmission antibiotics but were not predictive of a worse clinical outcome (p=0.665).