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Amoxicillin versus other antibiotic agents for the treatment of acute otitis media in children

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Abstract

Objectives

To compare the antibiotic treatment failure and recurrence rates between antibiotic agents (amoxicillin, amoxicillin-clavulanate, cefdinir, and azithromycin) for children with uncomplicated acute otitis media (AOM)

Study Design



uncomplicated AOM identified in a nationwide claims database. The primary exposure was antibiotic agent, and the primary outcomes were treatment failure and recurrence. Logistic



regression was used to estimate odds ratios and analyses were stratified by primary exposure, patient age and antibiotic duration.

Results

Among the 1,051,007 children included in the analysis, 56.6% were prescribed amoxicillin, 13.5% amoxicillin-clavulanate, 20.6% cefdinir, and 9.3% azithromycin. Most prescriptions (93%) were for 10 days and 98% were filled within 1 day of the medical encounter. Treatment failure or recurrence occurred in 2.2% (95%CI: 2.1, 2.2) and 3.3% (3.2, 3.3) of children, respectively. Combined failure and recurrence rates were low for all agents including amoxicillin (1.7%; 1.7, 1.8) amoxicillin-clavulanate 11.3% (11.1, 11.5); cefdinir 10.0% (9.8, 10.1); azithromycin 9.8% (9.6, 10.0).

Conclusions

Despite microbiologic changes in AOM etiology, treatment failure and recurrence were uncommon for all antibiotic agents and were lower for amoxicillin than for other agents. These findings support the continued use of amoxicillin as a first-line agent for AOM when antibiotics are prescribed.

Abbreviations:

[AAP](#) ([American Academy of Pediatrics](#)), [ADE](#) ([Adverse drug event](#)), [AOM](#) ([Acute otitis media](#)), [aOR](#) ([Adjusted odds ratio](#)), [CCCv2](#) ([Pediatric Complex Chronic Conditions Classification System version 2](#)), [CI](#) ([Confidence Interval](#)), [ICD-10](#) ([International Classification of Diseases 10th Edition](#)), [OR](#) ([Odds ratio](#)), [PCV](#) ([Pneumococcal conjugate vaccine](#))

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