

Pediatric respirology and hereditary disorders

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Antibiotic treatment in patients with bronchiolitis

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Background: Antibiotic treatment is not recommended in bronchiolitis, unless there is proven bacterial coinfection. Nevertheless, its use is still high. One of severe bacterial infections reported in children with bronchiolitis is urinary tract infections (UTI). The study aimed to assess antibiotic use in patients hospitalized due to bronchiolitis, its indications, and economic impact.

Material and methods: 459 children were diagnosed with bronchiolitis (390 RSV and 69 non-RSV) aged 8 days- 121 months. 73 (16%) had antibiotic treatment, including 9 cases of UTI. 157 urine cultures were performed (in 102 patients) to diagnose UTI in 9 patients, including 131 unnecessary cultures in 93 children. To establish UTI hospitalization frequency in general population (as a control group) we analyzed hospitalization between January 2013 and June 2017 (54 months).

Results: Antibiotic related directly to respiratory tract infection was administered in 63 cases (13.7%). Time trend analysis showed decreasing use of antibiotics, from 57% (12 per 21 patients) in 2010 to 13.7% in 2017, with the lowest 6.4% (5 out of 78 children) in 2014. Patients who obtained antibiotic required longer hospital treatment (12 vs. 8 days, $p < 0.01$) and were at 7.42-fold higher risk of having chest X-ray, but the groups showed no other differences in clinical course or laboratory findings. After excluding 2010 and 2011- years with definitely too high antibiotic use, we see mean 9.8% of patients treated with antibiotic. Frequency of UTIs was slightly lowered than in the control group (10.4% in general population). The costs of urine cultures was 765 euro (3275 PLN).

Conclusions: Antibiotic use for bronchiolitis should be performed only in justified cases, and its frequency should not exceed 10%. Since UTI was seen with a little bit less frequently in patients with bronchiolitis than in other hospitalized children, there is no explanation to perform urine cultures in those patients, unless UTI is suspected.

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