

CLINICAL MANIFESTATIONS AND RISK FACTORS IN URINARY TRACT INFECTION CAUSED BY COMMUNITY-ACQUIRED EXTENDED-SPECTRUM BETA-LACTAMASE ENZYME PRODUCING BACTERIA IN CHILDREN

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Abstract. Urinary tract infection (UTI) among infants and children due to community-acquired extended-spectrum beta-lactamase (CA-ESBL) producing bacteria are becoming more common. We aimed to determine the clinical characteristics and risk factors for UTI due to CA-ESBL producing bacteria among children attending Thammasat University Hospital, Pathum Thani, Thailand. We conducted a prospective case-control study during June 2016-May 2017, among patients aged 1 month to 5 years diagnosed with a UTI caused by CA-ESBL producing bacteria ($n=40$) and CA-non-ESBL producing bacteria ($n=40$). On univariate analysis, significant potential factors were: underlying kidney, pulmonary or neuromuscular disease, previous hospitalization within 1-3 months and a history of antimicrobial therapy within the previous 3 months. On multivariate analysis, only underlying kidney disease [Odds ratio=5.62; 95% confidence interval (CI): 1.08-41.31; $p=0.047$] was significantly associated with a UTI due to CA-ESBL producing bacteria. Patients with a UTI due to CA-ESBL producing bacteria had a significantly: (i) longer length of stay in the hospital (9.7 ± 5.0 vs 5.8 ± 2.3 days, $p<0.00$), (ii) longer time to fever defervescence (3.8 ± 2.4 vs 2.2 ± 0.8 days, $p<0.0004$), (iii) longer time to pyuria resolution (4.9 ± 1.89 vs 3.4 ± 2.0 days, $p<0.0004$) and (iv) a delay in receiving appropriate antimicrobial therapy (3.5 ± 1.3 days). Empiric antimicrobials covering CA-ESBL producing bacteria should be considered as first line treatment for infant and young children with pre-existing kidney disease with a UTI until urine culture results are back.

Keywords: urinary tract infection (UTI), community-acquired extended-spectrum beta-lactamase (CA-ESBL), Thailand

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