PS-369 TIMING OF VOIDING CYSTOURETHROGRAM IN THE INVESTIGATION OF URINARY TRACT INFECTIONS IN CHILDREN: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Background Voiding cystourethrogram (VCUG) is considered the gold standard for detecting vesicoureteral reflux (VUR). Optimal timing of VCUG after urinary tract infections (UTI) is controversial. Single studies have compared rates of VUR according to timing of VCUG, but included a limited number of patients and failed to reach definitive conclusions.
Objective We conducted a systematic review and meta-analysis of studies that compared rates of VUR when VCUG was performed early versus late in the investigation of UTI.
Methods We searched MEDLINE, EMBASE, CINHAL and CENTRAL. We included studies that compared the rates of VUR between early versus late-performed VCUG in children diagnosed with UTI. We used the threshold of early vs. late reported by the authors: most commonly at 7 days, but no later than 14 days. Studies that focused on patients with previously diagnosed VUR or other urogenital pathology were excluded. Pairs of reviewers independently screened potentially eligible articles, extracted data and assessed quality of the evidence according to the GRADE framework.
Results Of the 1526 studies reviewed, 7 studies with 1623 patients were included (2 prospective and 5 retrospective cohort studies). Meta-analysis showed no increased risk of VUR in early versus late performed VCUG (Odds ratio 0.99, 95% CI 0.77 to 1.27, corresponding to a risk difference of 0.00, 95% CI -0.05 to 0.04, I^2 = 0%). The overall quality of the evidence was moderate.
Conclusions In children diagnosed with UTI, there is no significant difference in rates of VUR when VCUG is performed early rather than later.

PS-370 OUTCOME OF ANTIMICROBIAL THERAPY OF PAEDIATRIC URINARY TRACT INFECTIONS CAUSED BY EXTENDED-SPECTRUM ß-LACTAMASE-PRODUCING ENTEROBACTERIACEAE

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Purpose The purpose of this study was to compare the outcome of carbapenem versus non-carbapenem antimicrobial therapy for paediatric urinary tract infections (UTIs) caused by extended-spectrum β-lactamase (ESBL) producing Enterobacteriaceae.
Methods From 2006 to 2011, 42 episodes of UTI caused by ESBL-producing Enterobacteriaceae were diagnosed at Seoul National University Children's Hospital. Patients were grouped according to the antimicrobials they received into a carbapenem group and a non-carbapenem group. Medical records were retrospectively reviewed to assess treatment outcome, time todefervescence after initiation of treatment, and relapse rate.
Results There were 36 children with 42 episodes of UTI caused by ESBL-producing Enterobacteriaceae. Twenty-seven cases (64%) had an underlying urologic disease, 28 (67%) cases were caused by *Escherichia coli,* and 14 (33%) cases were caused by *Klebsiella pneumoniae.* Four (10%) cases were treated with carbapenem, 23 cases (55%) were treated with non-carbapenem, and 15 (36%) cases were treated by switching from a carbapenem to a non-carbapenem and vice versa. There was no treatment failure at the time of antimicrobial discontinuation. Between the carbapenem and the non-carbapenem treatment groups, there were no significant differences in bacterial aetiology (p = 0.59), time todefervescence after the initiation of antimicrobials (p = 0.28), and relapse rate (p = 0.50). *In vitro* susceptibility to non-carbapenem antimicrobials did not affect the time todefervescence after the initiation of antimicrobial treatment, and the relapse rate in the non-carbapenem group.
Conclusion This study found no significant difference in the treatment outcome between paediatric patients treated with carbapenem and those treated with non-carbapenem antimicrobials for UTI caused by ESBL-producing Enterobacteriaceae. Therefore, the initially administered non-carbapenem therapy can be maintained in UTI patients showing clinical improvement.

PS-371 RESPIRATORY VIRUSES MIGHT INCREASE THE RISK OF ACQUIRING URINARY TRACT INFECTIONS

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Background Clinicians often express concerns of serious bacterial infection when facing a child with acute bronchiolitis.
Aims The goals of this study were 1) to estimate the prevalence of urinary tract infection (UTI) in infants and children with bronchiolitis, and 2) to evaluate the effect of demographic, clinical characteristics and other related factors on the prevalence rates of UTI.
Materials and methods A descriptive and retrospective study was conducted at Hamad Medical Corporation, the only tertiary medical centre in the State of Qatar. Patients ages 0 to 36 months hospitalised with acute bronchiolitis from January 2010 to December 2012 were included in the study. The following data were collected: age at diagnosis, gestational age, nationality, sex, Direct Fluorescent Antibodies (DFA) and urine culture results. For the purpose of data analysis, we divided the patient population into three categories: RSV positive, RSV negative and other than RSV (influenza, Para influenza, parechovirus, etc).
Results 836 paediatric patients with acute bronchiolitis were admitted in paediatrics department ward unit. The mean age at diagnosis was 3.61 ± 3.56 months ranged from 0.33 to 34 months. There were 39.2% girls, 68.8% boys; 61.4% Qatari and 38.6% were Non-Qatari nationals. The percentage of UTI was significantly higher among other than RSV (30/224; 13.4%) compared to RSV-positive (11/224; 4.9%) and RSV-negative (8/100; 8%); p = 0.007.
Conclusions Infants and young children with might have a higher risk of UTI if presented with bronchiolitis triggered by a respiratory virus other than RSV.