THE DIAGNOSTIC VALUE OF CONDUCTING VOIDING CYSTOURETHROGRAM IN ALL INFANTS YOUNGER THAN TWO MONTHS AFTER THEIR FIRST URINARY TRACT INFECTION

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Background and Aims

This study was conducted to determine the need for Voiding Cystourethrogram (VCUG) in infants below 2 months after their first urinary tract infection (UTI), irrespective of renal ultrasound result (RUS).

Method

A retrospective study was conducted at a tertiary medical institution in Qatar. Patients below 2 months hospitalized with a first episode of UTI from January 1, 2008 to December 31, 2013 were included.

Results

RUS was conducted in all the 136 patients (52% females, 48 % males). Of these 136 patients, 87 (63%) also had a VCUG done to screen for VUR. The VCUG results were divided into three categories: normal VCUG (n=56), VCUG with grade 1-2 reflux (n=11) and VCUG with grade 3-5 reflux (n=20). 72.7% of the 11 patients, who had a grade 1-2 VUR, had a normal RUS, which is often the case with low grade reflux. However, the RUS also failed to pick up any abnormalities in 13 out of the 20 babies (65%) with grade 3-5 reflux. Our study showed that RUS had a sensitivity of 32.2%, specificity of 75%, and negative predictive value of 66.7% with a positive predictive value of 41.7% to identify VUR, when compared to VCUG in these infants.

Conclusion

The overall diagnostic accuracy of ultrasound to detect VUR was found to be 59.8%. Our data demonstrates that RUS alone, without a VCUG, might fail to detect even clinically significant VUR i.e. grade 3-5 reflux. Hence imaging after the first UTI should include RUS in combination with VCUG in infants below 2 months.