

#1749 - Ultrasonographic evaluation of hydronephrosis for prediction of vesicoureteral reflux in children

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Body **Introduction:** Urinary tract anatomical abnormalities, especially vesicoureteral reflux (VUR), are the most important risk factors for urinary tract infection (UTI) in children. Its definitive diagnosis is associated with radiography which is expensive as well as accompanied with ionizing radiation exposure. The aim of this study was to evaluate the diagnostic value of ultrasound for detection of hydronephrosis and prediction of VUR in children with UTI.

Materials and Method: As retrospective study, 100 children with UTI enrolled the study and their kidney ultrasonography reports and VCUG results were evaluated. Positive as well as negative predictive values were calculated to find out ultrasonographic validity for prediction of VUR. Diagnostic accuracy and agreement between two diagnostic tests were determined by Kappa.

Results: Our results showed that the sensitivity, specificity, positive and negative predictive value and general accuracy of the ultrasonography in the diagnosis of reflux were 59.3%, 58%, 49%, 67.6% and 58.5% respectively. The agreement rate with VCUG was 0.167 ($P = 0.017$). The overall accuracy in subjects older than 4 years old and in girls was more, but the agreement rate for ultrasonography with VCUG in the diagnosis of reflux was 0.079 which is not clinically acceptable.

Conclusion: Ultrasonography is not reliable tool to predict vesicoureteral reflux, and other imaging techniques such as VCUG, should be conducted to diagnose suspected patients definitively.

Keywords: Ultrasound, VCUG, bladder reflux, urinary tract infection

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