

Transvaginal sonography in the assessment of distal urethral calculi

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Abstract

OBJECTIVES: To explore the morphological and functional findings of transvaginal sonography (TVS) in the diagnosis and management of distal ureteral calculi. **METHODS:** We retrospectively reviewed the imaging studies in seven cases of distal ureteral calculi (study group) and 20 cases of female volunteers without urinary tract infection (control group). All 27 patients had undergone TVS for assessment of the lower urinary tract. The variables measured on ultrasound included the presence or absence of distal ureteral calculi, the size and location of a calculus if present, the presence or absence of the ureter jet phenomenon, morphological changes of the ureteral papilla and adjoining tissue, and the height of the ureteral papilla, as well as vascular changes seen on Doppler imaging. **RESULTS:** In the controls, 80% of the ureteral papillae were triangular and 20% trapezoidal. The average (+/-SD) height of the ureteral papillae was 3.5 +/- 0.7 mm on the right and 3.6 +/- 0.9 mm on the left. There was no statistically significant difference between the heights of the right and left papillae ($P = 0.619$). In the study group, echogenic stones were identified in all seven patients and a hypoechogenic tubular structure connected to the involved papilla was identified in 6/7 patients. The average height of the involved papilla was 6.7 +/- 1.6 mm. Ureteric jets were visible in all patients in both the study and control groups. **CONCLUSION:** In patients with distal ureteral calculi, TVS provides a rapid, non-invasive and repeatable means of assessing the morphology and function of the distal ureter. Copyright (c) 2005 ISUOG. Published by John Wiley & Sons, Ltd.