

Ultrasonic diagnosis of congenital ureteral malformations in adult females: a report of 4 difficult cases

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Objectives

To investigate the diagnostic value of ultrasonography in congenital ureteral malformations in adult females, and to improve the recognition and diagnostic accuracy of difficult congenital ureteral malformations in this population.

Methods

A retrospective analysis was performed on the clinical and ultrasound imaging data of 4 adult female patients with difficult congenital ureteral malformations confirmed by ultrasound, CTU and/or MRU. The ultrasonographic features and key diagnostic points were summarized.

Results

The 4 cases included: 1 ectopic ureter inserting into the vaginal wall with ipsilateral renal atrophy, initially misdiagnosed as oblique vaginal septum syndrome; 1 ectopic ureteral orifice in the urethra associated with megaureter, misdiagnosed as hydrosalpinx; 1 prolapsed ureterocele misdiagnosed as cystocele, complicated with ureterocele prolapse and incarceration after retropubic midurethral sling surgery; and 1 patient with bilateral duplicated collecting

systems and ureters presenting bilateral ectopic ureteral insertion into the vagina and bladder neck, accompanied by a complete longitudinal vaginal septum. Key sonographic manifestations included vaginal wall cystic masses, renal agenesis or non-visualized kidney, aberrant ureteral course and intravesical cystic lesions. Preoperative localization and qualitative diagnosis by ultrasonography yielded favorable diagnostic coincidence.

Conclusion

Long-term urinary obstruction may cause obstructive nephropathy and even chronic renal failure. Early identification and prompt intervention are essential for optimizing prognosis. Ultrasound clearly displays morphological and obstructive features of congenital ureteral malformations in adult females. As the primary screening and diagnostic modality for these complex cases, it provides key evidence for clinical decision-making.



Figure 1 Ectopic ureter inserting into the vaginal wall
A: Abdominal ultrasound shows a vaginal cystic lesion with communicating locules, dense fluid and septa. B: Color Doppler demonstrates a narrow fistula with vortex flow between cystic masses.

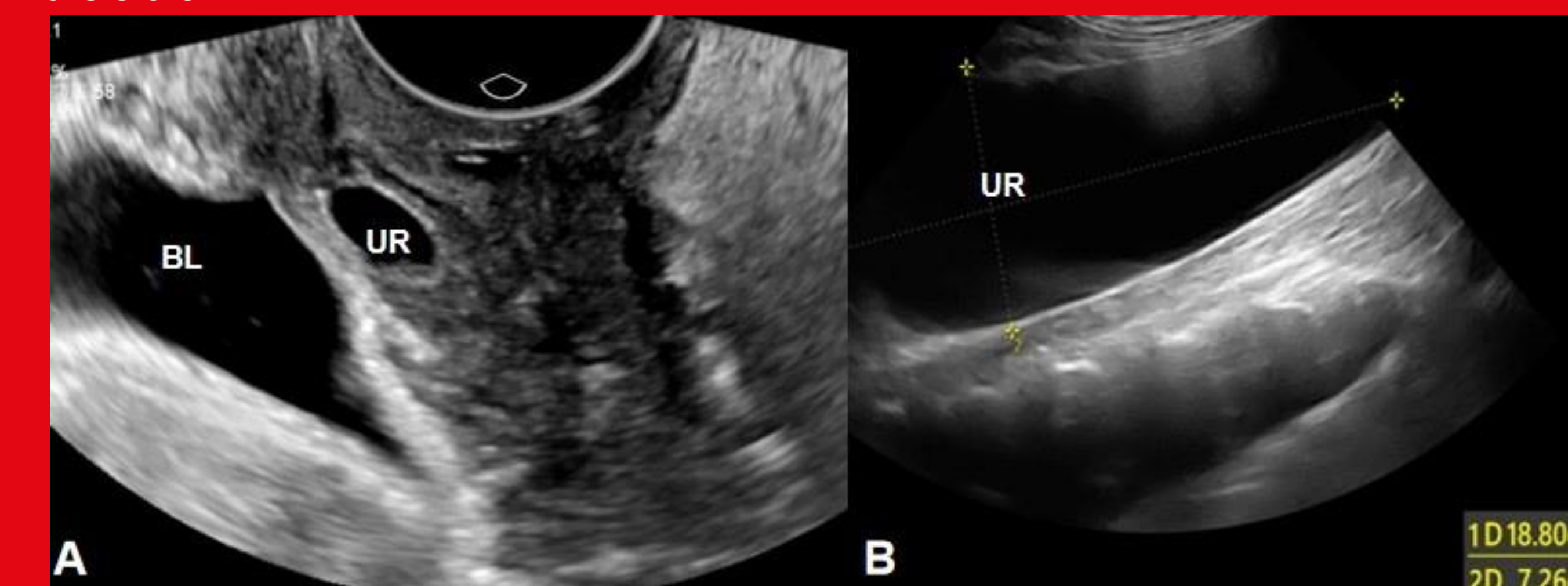


Figure 2. A: TRUS shows ureteral orifice ectopically located in the urethra B: Abdominal ultrasound shows a megaureter.

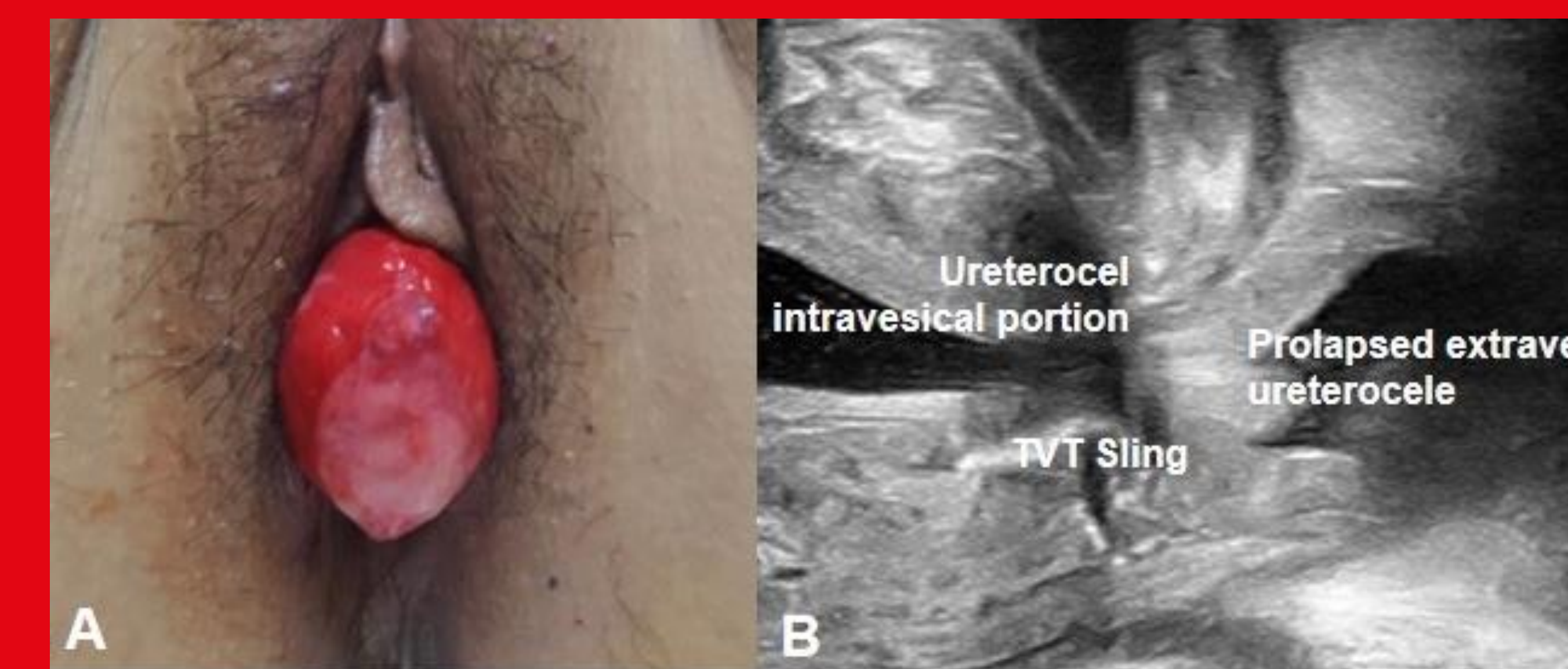


Figure 3. A: Ureterocele prolapsing out of the urethral orifice. B: US illustrating the sling echo within the anterior vaginal wall and mid-urethra, corresponding to urethral constriction .