

The female prostate sign

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Historically, the “female prostate sign” referred to the urographic appearance of impressions of the bladder base in a female, resembling that seen in elderly men with benign prostatic hypertrophy [1–3] (Fig. 1). Causes of the “female prostate sign” include urethral diverticulum, urethral mass, cervical or vaginal neoplasm, bladder base malignancy, ectopic ureterocele, and asymmetry of the pubic symphysis [2]. Further evaluation of the female prostate sign may involve various imaging techniques such as voiding cystourethrography (VCUG)/double balloon VCUG, ultrasonography (US), computed tomography, and magnetic resonance imaging (MRI) [3–5].

If urethral disorders are suspected, VCUG/double balloon VCUG can be obtained to evaluate the anatomy of the bladder and urethra, however, VCUG can only reveal abnormalities contiguous with the urethra such as a urethral diverticulum or urethral mass [4]. US (transabdominal, transvaginal, transperineal, or transurethral) can also be obtained to evaluate the bladder, proximal urethra, as well as adjacent soft tissue structures including the vagina and cervix with the additional benefit of not utilizing ionizing radiation. Ultimately, the superior soft tissue detail and multiplanar capability of MRI provides the highest sensitivity in the evaluation of urethra as well as the soft tissue and osseous structures outside of the urethra in the female perineum [3–5].

This case of a urethral mass arising in a urethral diverticulum is one of the rarer causes of a bladder base impression, but the imaging appearance is even more akin to a prostate gland than an uncomplicated diverticulum on US and MRI (Figs. 2, 3).



Fig. 1. Female prostate sign. Excretory urography obtained for right hydronephrosis in this 27-year-old female. There is a bladder base impression (arrow) which resembles that seen in males with prostatic hypertrophy. Differential diagnosis included urethral diverticulum or mass, cervical or vaginal neoplasm, or bladder base mass.

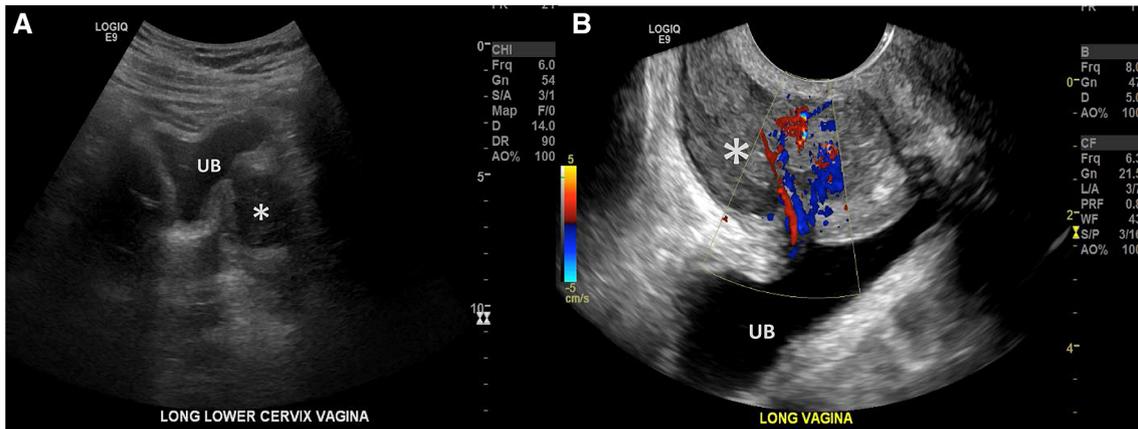


Fig. 2. Urethral mass in a 60-year old-woman who presented with incontinence. Longitudinal transabdominal US image (A) shows a urethral mass (*) at the bladder base (UB), similar to that of a male prostate gland.

Longitudinal transvaginal US image (B) shows the complex mass with internal echogenicity surrounding the proximal urethra. Color Doppler reveals hypervascularity of the mass, concerning for neoplasm. MRI was recommended.

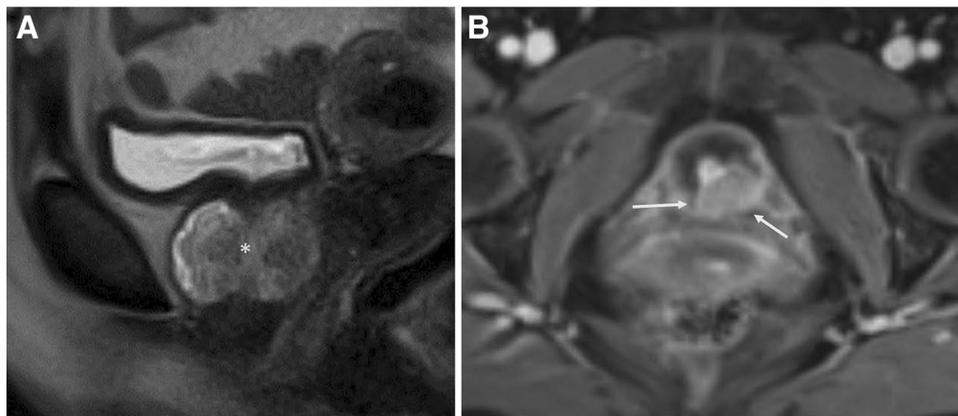


Fig. 3. (A) Sagittal T2-weighted MRI of the pelvis in the same patient demonstrates the urethral mass as a circumferential T2 hyperintense lesion at the base of the bladder with internal T2 hypointense contents similar to a

male prostate (*). Axial T1 post-contrast (B) images demonstrate enhancement (arrows) within the mass concerning for malignancy. The lesion was excised and the pathology revealed high-grade adenocarcinoma.

Compliance with ethical standards

Conflict of interest There are no conflicts of interest. There was no commercial funding for this work. The authors have full control over all the data. The study will not be published elsewhere in any language without the consent of the copyright owners.

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