

## Diagnosis and surgical outcomes of ectopic ureters in adults

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### Hypothesis / aims of study

• To evaluate the functional outcomes of surgery in patients with ectopic ureters diagnosed in adulthood. Ectopic ureters are a rare diagnosis in adults, and symptoms are often non-specific. As such, diagnosis remains a significant challenge for clinicians, requiring a combination of detailed history and clinical examination, contrast-enhanced cross sectional imaging and cystoscopy of the urinary tract.

### Study design, materials and methods

• Patients were referred over a period of 10 years. Data including surgical history, presenting symptoms, diagnostic modalities, interventions and functional outcomes were reviewed.

### Results

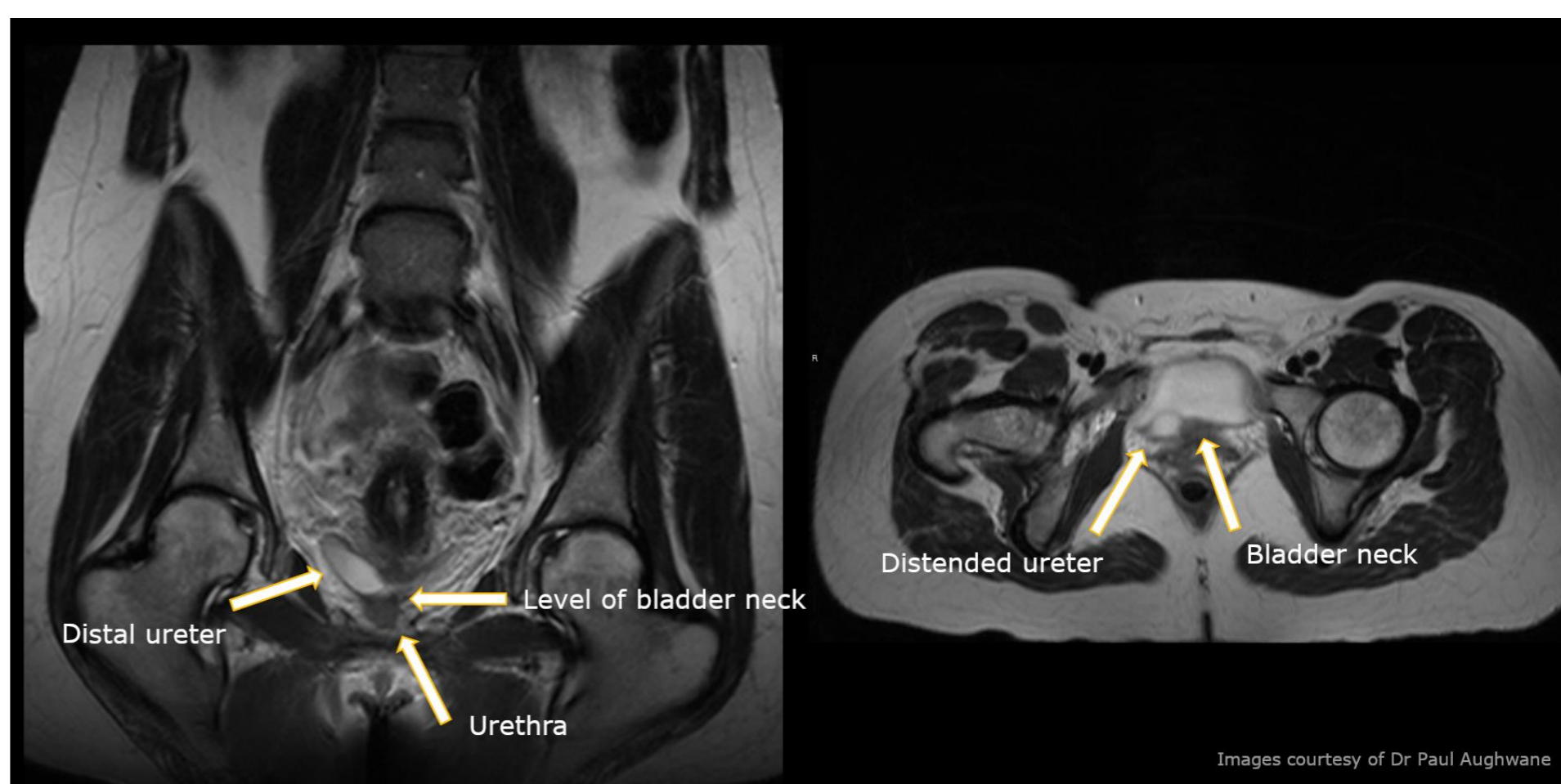
- 9 women and 1 man had a mean age of 37 years (range 20-58). All women were referred with lifelong (low volume) leakage. The single male was referred with storage LUTS.
- 3 of the 9 women had previous interventions for incontinence including TVT, Botox, and bulking agent and repair of urethrovaginal fistula in one patient. Three women had upper pole heminephrectomy or nephrectomy for non-functioning moiety/kidney.
- 4 of 6 (67%) women were cured of their stress incontinence with the bladder neck reconstruction alone, whilst two required further intervention. Three women had nephroureterectomy alone as primary treatment of which two were cured.

Drainage of ectopic ureter (number of patients)	Diagnostic Modality	Treatment
Bladder neck (4)	Cystoscopy (2) MRI (2)	- Re-implantation and bladder neck reconstruction (1) - Nephroureterectomy and bladder neck reconstruction (1) - Excision of ectopic ureter remnant with bladder neck reconstruction (1)* - Nephro-ureterectomy alone, subsequently had, colposuspension(1)
Duplicated vaginal vault (1)	MRI (1)	- Heminephrectomy alone (1)
Distal vagina adjacent to urethral meatus (2) with bladder neck dysfunction	EUA (2)	- Excision of ectopic ureter and bladder neck reconstruction with concomitant rectus fascial sling (1) * - Excision of ectopic ureter, with bladder neck reconstruction and urethral reconstruction with Martius fat pad(1)*
Sub-sphincteric urethra (2)	MRI (1) Simultaneous MRI and CT review (1)	- Heminephrectomy alone (1) - Reimplantation in bladder and bladder neck reconstruction (1)
Seminal vesicle with stone (1)	MRI (1)	- Heminephrectomy and excision of seminal vesicle (1)

\* previous nephrectomy/hemi-nephrectomy

### Interpretation of Results

• Fine slice MRI is the imaging of choice. Excision of the ureter with bladder neck reconstruction was successful in two-thirds of patients, whilst further stress urinary incontinence surgery is required in one-third patients.



Images courtesy of Dr Paul Aughwane

### Conclusion

• Ectopic ureter is a rare diagnosis in adults but should be considered in patients who describe lifelong incontinence.