

492 - Can transperineal ultrasound be used as a screening tool to identify patients in whom transvaginal ultrasound can be avoided?

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INTRODUCTION & AIM

- Transperineal ultrasound (TPUS) is non-invasive and allows dynamic visualisation of all 3 pelvic floor compartments in real-time.
- Transvaginal ultrasound (TVUS) is invasive and may duplicate negative findings already seen during TPUS.
- We hypothesised that if TPUS shows limited pathology then TVUS will not add any further information.

METHODS

- Data for this retrospective study was collected between 2013 - 2023 at St Thomas' Hospital, London, UK, and included adult female patients undergoing TPUS and TVUS.
- Data was collected for age, ethnicity, and findings on TPUS and TVUS.
- Anatomical abnormalities reported:
 - TPUS - rectocele, enterocele, middle compartment descent, and cystocele
 - anterior TVUS - bladder neck support
 - posterior TVUS - rectocele, intussusception, and enterocele
- Functional parameters collected on TPUS and TVUS were propulsion and coordination.
- Findings were compared between TPUS and TVUS and a negative predictive value (NPV) for TPUS was ascertained. The correlation between abnormal anatomical findings and function was determined by the chi-square test with p-value < 0.05 as significant.

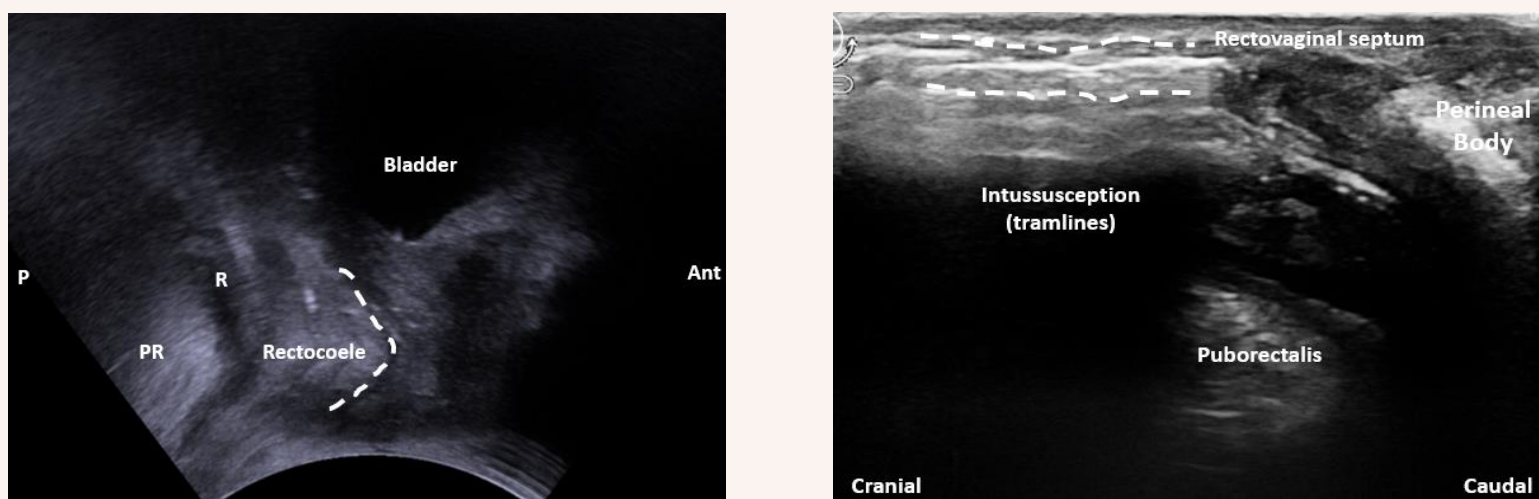


Figure (left) – Transperineal ultrasound and (right) – Posterior Transvaginal ultrasound

Ant – anterior, P – posterior, PR – puborectalis, R – rectum

RESULTS

N = 1625 (mean age 52 +/- 14 years)		
Missing data		
- Ethnicity		775 (47.7%)
- Propulsion and coordination		328 (20.2%)
TPUS	Rectocele – 1134 (69.8%) Enterocele – 183 (11.3%) Cystocele – 742 (46.7%)	
TVUS posterior	Rectocele – 713 (43.9%) Enterocele - 104 (6.4%) Intussusception (grade III – V) – 399 (24.6%)	
TVUS Anterior	Bladder neck support Good – 786 (71.2%) Poor – 318 (28.8%)	
	TPUS	TVUS
Rectocele	1134	713
Enterocele	183	104
Poor coordination and propulsion were associated with fewer anatomical abnormalities on TPUS and TVUS (p-value <0.001).		

INTERPRETATION

59.4% rectocele and 40% enterocele were detected on both TPUS and TVUS.

Rectocele was visualised on TVUS in 39 patients (7.9%) when none were seen on TPUS	NPV 92.1%
Enterocele was visualised on TVUS in 26 patients (1.9%) when none were seen on TPUS	NPV 98.1%
Poor bladder neck support was visualised on TVUS in 8.8% when no cystocele was seen on TPUS	NPV 91.2%

CONCLUSION

- If the function is adequate, then some pathology will be missed if only TPUS is performed. TPUS cannot provide a screening tool and patients should undergo both scans as a standard.
- Observations can be underreported if the function is poor. Pelvic floor re-training should be considered before performing investigations where TPUS can be used as a visual biofeedback tool.
- Once function has improved, a repeat TPUS followed by TVUS can be performed to better assess anatomical abnormalities.

REFERENCES

- Beer-Gabel M, Carter D. Comparison of dynamic transperineal ultrasound and defecography for the evaluation of pelvic floor disorders. Int J Colorectal Dis. 2015 Jun;30(6):835–41
- Hainsworth AJ, Solanki D, Schizas AMP, Williams AB. Total pelvic floor ultrasound for pelvic floor defaecatory dysfunction: a pictorial review. Br J Radiol. 2015;88(1055):20150494.