

Translabial Ultrasound: An Effective Modality for Evaluation of Midurethral Sling Revision

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Background

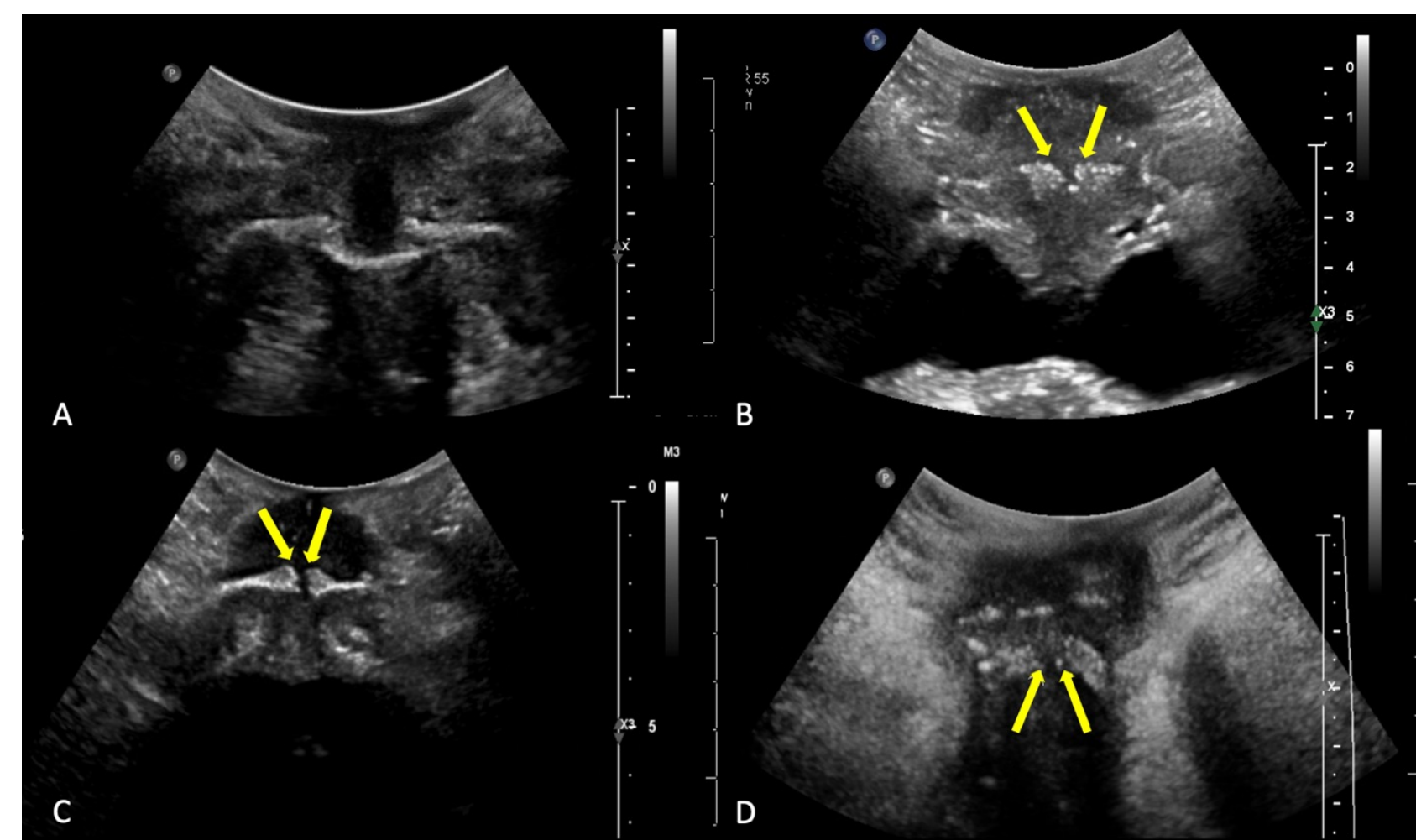
- Midurethral sling (MUS): surgical placement of synthetic mesh
- Within 10 years of sling placement, 1 in 20 women undergo subsequent mesh revision (partial excision or transection)
- Translabial ultrasound (TLUS) is sensitive at identifying MUS, little data in evaluating surgically revised MUS
- Goal: Assess TLUS as a diagnostic tool in its detection of MUS discontinuity**

Methods

- Retrospective analysis on patients who underwent TLUS at tertiary care center
- September 2017 and May 2020
- 19 patients excluded, cohort total 81
- All TLUS images read by single fellowship-trained radiologist
- MUS revision on TLUS identified by complete discontinuation of the hyperechoic mesh by intervening hypoechoic tissue in a segment of the MUS
- Reference Standard: operative or clinical records

Results

	REVISED	NOT REVISED
DISRUPTED ON TLUS	11	2
NOT DISRUPTED ON TLUS	2	66



- 81 women had MUS evaluated on TLUS
- Initial MUS placement date ranged 1995 to 2019, average 2010 \pm 5.5 (SD) years
- 13 TLUS noting MUS revision, 11 confirmed intraoperatively as revised, remaining 2 intact
- 68 TLUS noting intact MUS, 66 confirmed intraoperatively as intact, remaining 2 with history of mesh revision
- Sensitivity: 84.6%**
- Specificity: 97.1%**

Figure 1A-D: TLUS Images, Coronal View, of One True Positive (1A) and Three True Negative Cases (1B-D). Yellow arrows indicate MUS material disrupted at midline.

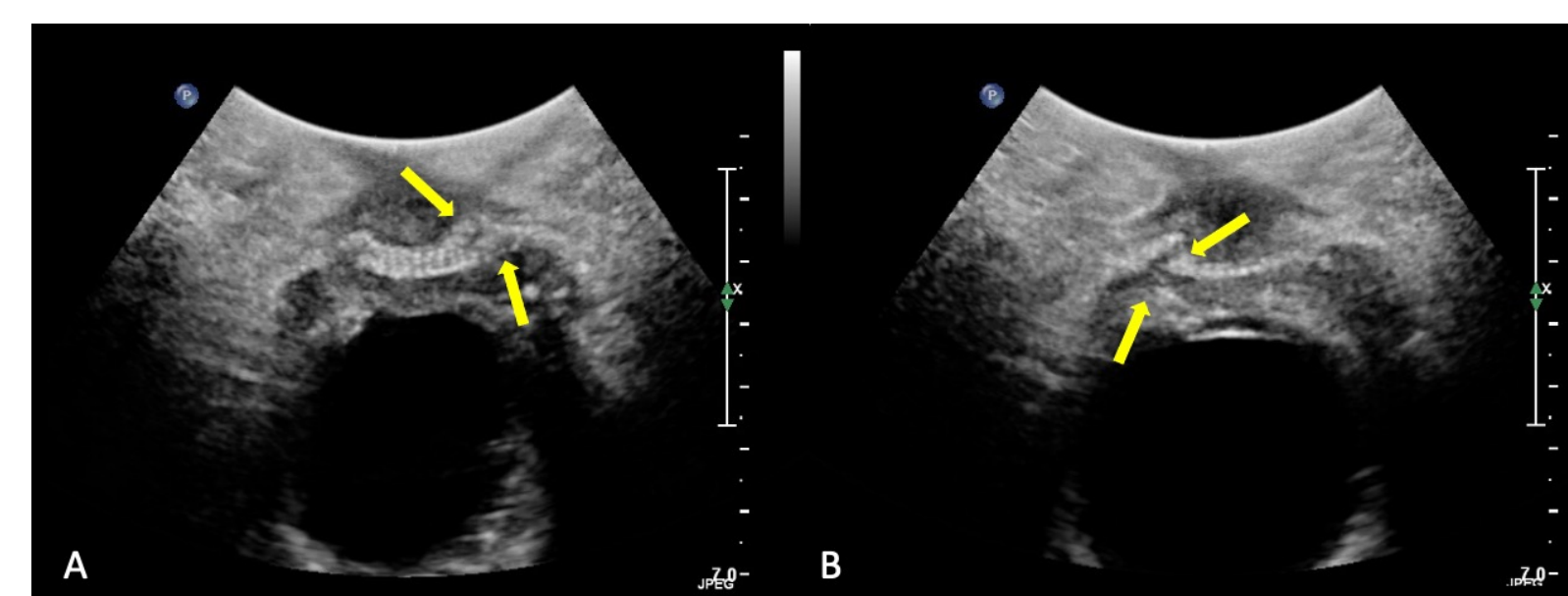


Figure 2A & 2B: False Negative Case, TLUS, Coronal View, Anterior (2A) and Posterior (2B) Images. TLUS noted intact sling, twisting of arms (yellow arrows). Pt history of partial MUS removal.

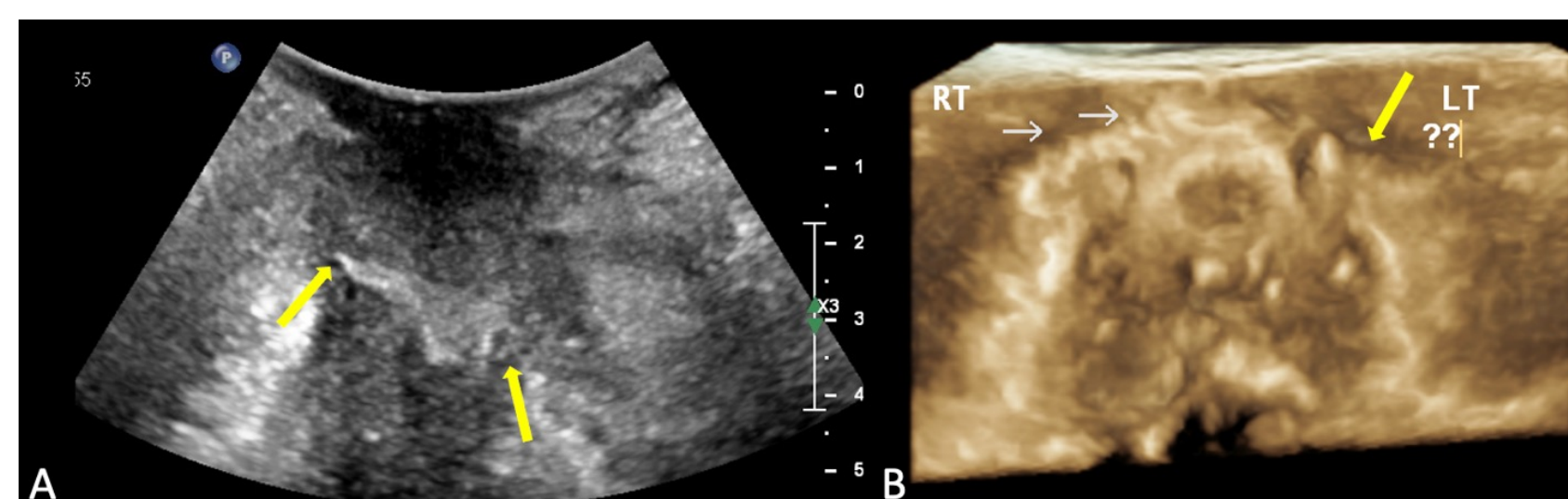


Figure 5A & 5B: False Positive Case, TLUS 2D (3A) & 3D (3B) Images. TLUS described sling with twisting/disruption to left lateral aspect (yellow arrows). Patient had history of non-revised MUS.

Discussion & Conclusion

- Interpretation of slings as twisting may be mistakenly read as sling transection
- Radiologists should evaluate the lateral aspects of the sling carefully, as they may represent a prior lateral transection without a clear gap
- TLUS is an inexpensive, non-irradiating and noninvasive modality that is effective at visualizing MUS
- It is a reliable identifier of prior MUS revision, detecting a midline discontinuity of the hyperechoic mesh with an average 10mm gap

Implications

- TLUS is a useful tool for the radiologist working with a urologist or urogynecologist in evaluating the patient with a known or suspected history of MUS revision surgery

Disclosures

The authors have none.