World Journal of Urology (2026) 44:173
https://doi.org/10.1007/s00345-026-06293-5

CORRESPONDENCE

Radial force and Post-HoLEP incontinence: is the external sphincter the real victim, or is it the anterior fibromuscular stroma?

Yu-Hsiang Lin[1]

Received: 6 December 2025 / Accepted: 10 February 2026
© The Author(s), under exclusive licence to Springer-Verlag GmbH Germany, part of Springer Nature 2026

Dear Editor,

We read with great interest the article by Schwartztuch Gildor et al., which elegantly utilizes trigonometric calculations to propose that extreme radial forces and subsequent over-dilation of the external urethral sphincter (EUS) are primary mechanisms for transient stress urinary incontinence (SUI) following HoLEP [1]. While we commend the authors for quantifying the mechanical stress imposed by the resectoscope, we respectfully suggest that the anatomical target of this injury may not be the EUS, but rather the Anterior Fibromuscular Stroma (AFS).

The authors premise their conclusion on the traditional view that the EUS is the primary gatekeeper of continence. However, classic physiological studies challenge this assumption. Lapides et al. demonstrated that complete paralysis of striated muscles (including the EUS) using curare did not result in urinary incontinence [2]. Similarly, Krahn and Morales showed that bilateral pudendal nerve blocks effectively paralyzed the EUS but did not compromise continence in post-prostatectomy patients [3]. These findings strongly imply that the EUS is not the sole, nor perhaps even the primary, mechanism for passive continence.

Koraitim proposed the "lissosphincter" (smooth muscle) as the key to passive continence [4]. However, locating this mechanism strictly within the urethral smooth muscle lining presents a paradox: during Transurethral Resection of the Prostate (TURP), this smooth muscle layer is inevitably resected. If the lissosphincter were merely the urethral lining, TURP would invariably lead to incontinence, which is clinically not the case. This suggests the critical smooth muscle component lies deeper or anteriorly—preserved in TURP but potentially vulnerable in Enucleation procedures (EEP).

We propose that this structure is the AFS. Ukimura et al. demonstrated via ultrasound that the AFS actively contracts to open the bladder neck and urethra. Conversely, its structural integrity contributes to resting closure pressure [5]. Lin et al. have further elucidated that the AFS is the critical anatomical unit responsible for passive continence [6]. Damage to this unit, rather than the EUS, leads to the continuous opening of the bladder neck often seen in transient SUI.

The "radial over-dilation" identified by Schwartztuch Gildor et al. is a compelling physical mechanism. However, geometrically, the excessive lateral angulation of the resectoscope exerts significant tangential tension on the anterior aspect of the prostate. It is highly probable that these radial forces are overstretching or tearing the AFS, rather than functionally impairing the EUS alone. The strong correlation found by the authors between resectoscope angle and SUI likely reflects the degree of mechanical trauma to the AFS unit.

In conclusion, while we agree that radial force is the mechanism of injury, we posit that the "victim" is the AFS. Recognizing the AFS as the guardian of passive continence explains why extreme resectoscope angulation—which exerts maximal stress on anterior structures—leads to transient incontinence, and why its recovery mirrors the healing of this fibromuscular tissue.

Author contributions Yu-Hsiang Lin: conceptualization, investigation, writing—original draft, writing—review and editing.

Funding Not applicable. This research did not receive any specific grant from funding agencies in the public, commercial, or non-profit sectors.

Data availability Not applicable.

This comment refers to the article available online at https://doi.org/10.1007/s00345-025-05943-4.

✉ Yu-Hsiang Lin
laserep@cgu.edu.tw

[1] Department of Urology, School of Medicine, Linkou Chang Gung Memorial Hospital, Chang Gung University, No.5, Fuxing St., Guishan Township, GuishanTaoYuan 333, Taiwan

Published online: 16 February 2026

Declarations

Conflict of interest The authors declare no competing interests.

Ethical approval and consent to participate Not applicable.

Consent to publish Not applicable.

References

1. Schwartztuch Gildor O, Mendelson T, Gomez Sancha F, Herrmann TR, Scoffone C, Aho T et al (2025) Applied trigonometry in elucidating the mechanism of post-HoLEP urinary incontinence. World J Urol 44(1):19. https://doi.org/10.1007/s00345-025-05943-4
2. Lapides J, Sweet RB, Lewis LW (1957) Role of striated muscle in urination. J Urol 77(2):247–250. https://doi.org/10.1016/S0022-5347(17)66549-2
3. Krahn HP, Morales PA (1965) The effect of pudendal nerve anesthesia on urinary continence after prostatectomy. J Urol 94(3):282–285. https://doi.org/10.1016/S0022-5347(17)63616-4
4. Koraitim MM (2008) The male urethral sphincter complex revisited: an anatomical concept and its physiological correlate. J Urol 179(5):1683–9. https://doi.org/10.1016/j.juro.2008.01.010
5. Ukimura O, Iwata T, Ushijima S, Suzuki K, Honjo H, Okihara K et al (2004) Possible contribution of prostatic anterior fibromuscular stroma to age-related urinary disturbance in reference to pressure-flow study. Ultrasound Med Biol 30(5):575–581 Epub 2004/06/09. https://doi.org/10.1016/j.ultrasmedbio.2004.02.005
6. Lin Y-H, Chen S-T, Juang H-H (2024) Exploring the function of the anterior fibromuscular stroma in passive continence. Eur Urol Open Sci 64:9–10. https://doi.org/10.1016/j.euros.2024.03.014

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.