



Open Access

## INVITED COMMENTARY

Operational Andrology

**Commentary on a novel technique for distal hypospadias repair using forked corpus spongiosum****Hannah Kay, E Charles Osterberg***Asian Journal of Andrology* (2021) **23**, 122; doi: 10.4103/aja.aja\_52\_20; published online: 13 October 2020

First-line treatment for hypospadias is surgical repair between 6 and 18 months of age. Goals of treatment may include improved urinary stream, a cosmetically pleasing appearance, and reduction of penile curvature (chordee).<sup>1</sup> Glans droop is often both a cosmetic and pain concern for hypospadias patients, and the degree of glans droop may be closely associated with the development of a forked corpus spongiosum (FCS) due to fibrotic tension on the penile head.<sup>2</sup> Functional complications after distal/midshaft hypospadias repair include fistula and urethral stricture formation that may require reoperation, which occur at a rate of about 16%.<sup>3</sup>

In the accompanying article, Zhang *et al.*<sup>4</sup> describe a new hypospadias repair technique that includes reconstruction of the FCS during tubularized incised plate (TIP) and onlay island flap (ONLAY) repair for distal and midshaft hypospadias. The authors describe their technique briefly and provide some nice intraoperative photos. In short, they dissect away the FCS from the midurethral plate and raise glans wings at 3 o'clock and 9 o'clock. The FCS was then anastomosed at the coronal sulcus, providing a secondary layer of closure over the neourethra.

The authors conducted a retrospective analysis of 137 patients at their hospital who received distal/midurethral TIP or ONLAY hypospadias repair by a single surgeon. Approximately half of the patients also received reconstruction of the FCS during their surgery, while the other half did not.

The authors determined complication rates after TIP and ONLAY hypospadias repair among different developed countries to be 12%–24%. Their FCS reconstruction group had a significantly lower overall complication rate (6.8%) than those in the nonreconstruction group (18.8%). Their findings suggest that FCS reconstruction in appropriately selected patients provides better protection of the ventral side of the neourethra, leading to significant reduction in postoperative fistula.

The authors correctly report on ethnic differences in penile dimensions and the impact of these measurements on choice of ONLAY versus TIP in their cohorts, which may have affected the overall differences in complication rates. Thus, multivariate analysis with glans size as an independent predictor of complication rate would have been useful. Statistical power was not calculated and is likely low, given the small sample sizes of each group. The median time to fistula formation in hypospadias repair is typically 3–12 months,<sup>5</sup> so the authors followed their patients for an appropriate amount of time to capture those complications (15 months). Assessment for stricture recurrence using flow rates, postvoid residual urine (PVR), and cystoscopy would have been useful, which the authors note.

Nonetheless, the FCS repair represents a promising technique to reduce complication rates in distal/midurethral hypospadias repair. The authors should be commended for maintaining a robust series of over 130 hypospadias repairs.

**COMPETING INTERESTS**

The authors declared no competing interests.

**REFERENCES**

- 1 Winship BB, Rushton HG, Pohl HG. In pursuit of the perfect penis: hypospadias repair outcomes. *J Pediatr Urol* 2017; 13: 285–8.
- 2 Zhang B, Bi Y, Ruan S. Reconstructing forked corpus spongiosum to correct glans droop in distal/midshaft hypospadias repair. *J Int Med Res* 2020; 48: 1–9.
- 3 Winberg H, Arnbjörnsson E, Anderberg M, Stenström P. Postoperative outcomes in distal hypospadias: a meta-analysis of the Mathieu and tubularized incised plate repair methods for development of urethrocutaneous fistula and urethral stricture. *Pediatr Surg Int* 2019; 35: 1301–8.
- 4 Zhang B, Bi Y, Ruan S. Application and efficacy of reconstructing forked corpus spongiosum in distal/midshaft hypospadias repair. *Asian J Androl* 2020. Doi: 10.4103/aja.aja\_42\_20. [Epub ahead of print].
- 5 Wood H, Kay R, Angermeier KW, Ross JH. Timing of the presentation of urethrocutaneous fistulas after hypospadias repair in pediatric patients. *J Urol* 2008; 180: 1753–6.

Dell Medical School, University of Texas at Austin, 1601 Trinity Street, Suite 704, Austin, TX 78704, USA.

Correspondence: Dr. EC Osterberg (charles.osterberg@austin.utexas.edu)

Received: 01 July 2020; Accepted: 14 July 2020

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

©The Author(s)(2020)