

morphology of the external urethral meatus and the depth of the groove.

2. DUG procedure achieves most functional and cosmetic goals. However, this procedure should not be applied for the cases of which the hypoplastic urethra extends to the distal penile shaft even if the external urethral meatus is in the glanular / subcoronal position.
3. At our hospital, the success rate of this procedure when applied to all cases of glanular/subcoronal hypospadias with meatal stenosis, skin chordee and skin chordee was 95% in average of 40 months postoperatively. Therefore, we will continue to recommend this surgical procedure.

SUPPLEMENTARY MATERIALS

Supplementary material associated with this article can be found, in the online version, at [doi:10.1016/j.urology.2018.06.062](https://doi.org/10.1016/j.urology.2018.06.062).

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EDITORIAL COMMENT



The distal urethroplasty and glanuloplasty procedure represents a combination of Heinke-Mikulicz and Thiersch-Duplay techniques, both are well established procedures that have stood the test of time. The dorsal vertical incision, which is closed transversely heals by primary intention, rather than being left open to heal by secondary intention as described in the tubularized incised plate urethroplasty procedure. Furthermore, the incision widens, advances and when made deep enough creates a deep glanular sulcus, which is surgically favorable, as opposed to a shallow or flat glans, which is surgically unfavorable.

Since our first reported series of 512 cases in 1997 (Ref. 2), I have maintained the same low morbidity rate (2.1%) in hundreds of cases of distal sub-coronal and coronal hypospadias repairs, with an additional 1% of small fistulas, which became apparent after toilet training in children, who had had their surgery in infancy.

I wish to congratulate the authors on their good outcome using the distal urethroplasty and glanuloplasty procedure.

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<https://doi.org/10.1016/j.urology.2018.06.064>
UROLOGY 124: 252, 2019. © 2018 Elsevier Inc.

AUTHOR REPLY



We recognize that the step to transversely close the dorsal vertical incision of the urethral plate has brought two advantages to the distal urethroplasty and glanuloplasty (DUG) procedure over the tubularized incised plate urethroplasty procedure, which leaves the incision unsutured. One is that transversely closing the dorsal vertical incision enables incision of the urethral plate out to the neomeatus at the end of the glans, and, as a result, it becomes possible to widen the glans of the portion that becomes the neomeatus. The other advantage is not leaving the

neourethra with a denuded surface for re-epithelialization or possible scar formation.

Regarding complications, there were 15 cases that underwent surgery in infancy and completed toilet training during the post-operative observational period (average period: 52 ± 26 months) among our 24 cases. There was no additional case with complications (urethral stenosis, meatal stenosis, fistula, and meatal regression) that became apparent after toilet training. However, none of our patients have yet reached puberty.

It was pointed out that there is a risk of reconstructed urethral stenosis as a late complication following the Thiersch-Duplay procedure that uses solely ventral penile tissues in hypospadias repair.¹ It was explained that ventral tissues may not grow satisfactorily with the rest of the genital tubercle, because tissues sitting beyond the division of the corpus spongiosum are poor androgen responders compared to the tissues sitting proximal to the division of the corpus spongiosum.²

The DUG procedure is also a method that uses solely ventral penile tissues; therefore, we will follow-up our patients until adolescence.

In our country, it was reported that the proportion of glandular/subcoronal hypospadias was less than in other countries.³⁻⁵ Therefore, we are in great need of a unified surgical technique for these cases, and we will continue to perform the DUG procedure.

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<https://doi.org/10.1016/j.urology.2018.06.065>

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