

Tubularized incised plate urethroplasty for distal penile hypospadias repair; our experience in prince Rashid bin Alhassan Hospital, Amman, Jordan

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Objective: To report our success rate, complications and cosmetic results with distal penile hypospadias treated by tabularized incised plate urethroplasty.

Methodology: This retrospective study was done at Prince Rashid bin Alhassan Hospital from June 2011 to April 2013 and included 83 patients with distal penile hypospadias who underwent tabularized incised plate urethroplasty for the first time. All patients were followed for up to 24 months after surgery.

Results: Patients age ranged from 2-8 years; mean age was 4 years. 69 (83%) patients had

excellent functional and cosmetic results without any complications. Complications were seen in 14 patients. Urethrocatalanous fistula was seen in 8 (10%) patients, meatal stenosis in 2 (2.4%), complete disruption of the glans in 1 (1.2%) and penile rotation was seen in 3 (3.6%) patients.

Conclusion: Tabularized incised plate urethroplasty for distal penile hypospadias repair resulted in excellent functional neourethra, excellent glans and meatus shape and low complications rate. (Rawal Med J 201;41:43-45).

Key words: Hypospadias, urethroplasty, urethrocatalanous fistula.

INTRODUCTION

Hypospadias is congenital anomaly in which the urethral meatus is located at the ventral aspect of the penis and often stenotic with abnormal ventral penile skin with hooded dorsal prepuce, associated with chordee and flat glans.¹⁻⁴ According to the meatus position hypospadias could be classified into distal, midshaft or proximal penile hypospadias.¹⁻³ Hypospadias is a common congenital anomalies in boys with an incidence of 3.2% per 1000 live births.^{2,3}

The aim of hypospadias surgery is to correct meatus position and bring it to normal anatomical site with acceptable glans shape.⁴ Tabularized incised plate (TIP) urethroplasty was introduced in 1994 as new modality for distal penile hypospadias repair.^{1,2} The principles of TIP repair are creation of new meatus at the tip of the glans, correction of the chordee, conical shape glans and cosmetic skin coverage.^{1,5} More than 300 techniques for hypospadias repair has been described, among them TIP urethroplasty.⁵ TIP now is the surgical procedure of choice for distal

penile hypospadias (DPH) repair because of its simplicity and high success rate.^{6,7} In this study, we present our experience with TIP urethroplastias for distal penile hypospadias repair describing results, complications and cosmetic appearance.

METHODOLOGY

This retrospective study was carried out at Prince Rashid bin Alhassan Hospital, Amman, Jordan from June 2011 to April 2013. Surgical procedure and its complications were explained to patient families. All patients underwent repair for the first time. Surgery performed under general plus caudal anesthesia. Operative procedure involved degloving of the penis, creation of glans wings, urethral tubularization using PDS 6-0 (polydioxanone) suture in a continuous *Subcuticular* manner over Zaontz urethral stent. Circumcision was completed in all patients. All children were admitted post operative to surgical floor, discharged on the first postoperative day and dressing removed on the third postoperative day. All

were seen after 10 days as for stent removal, then after one month, six months and 24 months. All outcomes, complications and demographic data were collected and analyzed.

RESULTS

Age ranged from 2 to 8 years (mean 4). Out of 83 children with distal penile hypospadias, 65 were distal shaft, 11 subcoronal and 6 coronal. The mean hospital stay was 24 hours. Mean time of surgery was 70 minutes.

Excellent results were seen in 69 (82.8%) patients with excellent functional and cosmetic results. Acute complications such as bleeding and urine retention were not seen. Urethrocutaneous fistula developed in 8 (10%) patients, penile torsion in 3 (3.6%), meatal stenosis in 2 (2.4%) and complete glandular disruption in 1 (1.2%) patient.

DISCUSSION

The goal of modern hypospadias surgery is to create a normal function and shape glans and penis.^{1,4} In 1989 Rich et al. introduced the principle of urethral plate midline incision to improve the results of hypospadias repair.⁶ Snodgrass advanced this principle by extending the incision from the meatus to the tip of the glans.^{1,2,4}

In our study, we found this procedure is quick to perform, with average time was 70 minutes. Patients did not require multiple anesthesia exposure because it is a single stage procedure. Our complication rate was favorable as compared with other studies.

We found that the percentage of our successful cases (82.8%) was similar to reported by Gozar et al.⁸ Urethrocutaneous fistula occurred in 10% as compared to 0-7% reported by other studies.^{6,7} Dorsal flap has been applied as a second layer to minimize urethrocutaneous fistula rate.⁹

Meatal stenosis was seen in two patients and could be explained by the closure of glandular wings under tension.^{10,11} Complete disruption of the glans was seen in one patient due to superficial skin necrosis.^{12,13} According to cosmetic appearance, three boys had penile torsion mostly due to dartos

flap torsion.^{14,15} There was no megalourethra, urethral diverticulum or urethral stricture seen in our study.

CONCLUSION

TIP urethroplasty is a single stage, quick and simple procedure with excellent functional and cosmetic results, which use urethral plate to its maximum potential.

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Conception and design: Mohammad Dajaa, Amer Alibrahim
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Conflict of Interest: None declared
 Rec. Date: Oct 8, 2015 Accept Date: Dec 2, 2015

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