



# One-Step Urethroplasty in Recurrent Chordee on Scrotal Hipospadia

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## Abstract:

Hypospadia is genitalia externa congenital anomaly in male. Recurrent chordee is one of most complication often happen in hypospadias correction. One-step urethroplasty in recurrent chordee is very challenging due to formed massive fibrosis. Correction surgery goals is to release chordee and moving meatus urethra externa to glans tip, and could be done by one-step or two-step. We report patient, 13 years old boy came with chief complain urinate from scrotal region. Patient was diagnose with scrotal hypospadia. Patient done chordee excision previously, but penis still not straight. Then, we perform one-step urethroplasty rechordee excision with local flap. Patient was follow-up one week postoperative, wound in good condition, and dehiscent wasn't found. Urinary catheter released after three weeks. Evaluation also done in one month postoperative, and found no fistel. One-step urethroplasty rechordee excision was perform in scrotal hypospadi with local urethroplasty flap technique. Evaluation from beginning until two months postoperative found no fistel and urinate in straight line.

**Keywords:** hypospadia; one-step urethroplasty; recurrent chorde

## I. Introduction

Hypospadia is a congenital absence of failure of urethral formation in the corpus spongiosum, ventral prepuce and in severe cases penile chordee may develop. The incidence of hypospadia ranges from 0.5-8 per 1000 live births worldwide. Many surgical techniques have been used to correct hypospadia, either one-step or two-step (Bhat, 2007). All surgical techniques have the same goal, namely reconstructing the penis so that the external urethral meatus (MUE) is proximal to the penile gland, the flow of mics can be straight, the penis can be straight both when it is normal and when it is erect, and the patient can perform normal sexual functions (Baskin, 2006).

In the two-step technique, the initial action taken is to perform a chordee release followed by a urethroplasty. The problem that can occur in two-stage hypospace correction is the occurrence of recurrent chordee. Recurrent chordee occurred in 14.2% of patients who had undergone release chordee surgery (Braga, 2007). The causes of recurrent chordee include the formation of excessive fibrosis and contraction of the graft used to manufacture the neourethra (Azmy, 2004). In this case report, we share our experience of managing hypospadia with the one-step urethroplasty technique using a local preputial skin flap, in a patient who previously had chordee excision but a recurrent chordee was present. Micturition and sexual aspects are considered very important to assess the outcome of urethral reconstruction.

## II. Case

Reproductive health is an important component for male and female health (Simanjuntak, 2020). A boy was brought by his parents with complaints of urinating out of the scrotum area. Complaints experienced since the patient was born. There was no previous history

Vol. 2, No. 3, September 2020, Page: 709-713

of trauma to the genital area. The patient was diagnosed with scrotal-type *hypospadia* as a child. Previously, the patient had *chordee* excision without undergoing *urethroplasty*, but the end result was that the patient's penis was still experiencing a pull.

The patient is prepared for hospitalization and surgery. A *one-step urethroplasty* technique is performed using a local *preputial skin flap* to form a new urethra in the patient. Previously, excision *chordee* was performed to remove the remaining *chordees in* the previous operation. After the *chordee* is removed and the neo-urethra has formed, the wound is closed using the surrounding skin. The urinary catheter is maintained for 3 weeks.



Figure 1. Pre Operation



Figure 2. Pre Operation with Catheter

A week after surgery, a follow-up was performed to assess the outcome. The wound looks better and dry without being accompanied by a dehiscent. The patient was discharged and advised to go to the polyclinic four weeks postoperatively. By the time the patient came for control, the wound was healing well, and the urine was straight. Patients and families are very happy and satisfied with the results obtained.



Figure 3. Intra Operation



Figure 4. Intra Operation

## III. Discussion

The ultimate goal of surgery in a patient with *hypospadia* is normal urinary and sexual function. The surgical technique used for the management of *hypospadia* also varies across centers (Kajbafzadeh et al, 2007). There is much debate as to the advantages and disadvantages of *one-step* or *two-step urethroplasty* (Schlomer, 2017). We use the one-step *urethroplasty* technique for the recurrent *chordee* excision because it is assessed from the point of view of the patient's comfort feeling more comfortable, in terms of cost savings, and based on our experience there is no significant difference in the results of using *one-step* or *two-step urethroplasty*. This is in accordance with research conducted by Barbagli et al. who compared the use of one-step techniques with *two-step* techniques, showed better one-step techniques (Barbagli, 2006).



Figure 5. Post Operation



Figure 6. Post Operation

One of the complications that can occur after surgical correction of *hypospadia* with severe *chordee* is the formation of a *recurrent chordee*. Braga et al. reported that complications of recurrent *chordee* were found in 5 of 35 children who were operated on. In the results of this study, things that can make *recurrent chordee* occur, namely graft contraction. Other studies have shown that *chordee* can re-form after release *chordee* surgery is performed due to the formation of massive fibrosis tissue in the area where the *chordee* was released, so that this fibrotic tissue pulls the penis and makes the penile curvature curl back.

The use of a local preputial skin flap as a neo-urethra is not a new technique for urethroplasty. Several case reports have described the use of this technique for urethroplasty (Elmoghazy et al, 2016). The preputial skin is reversed, so that the epithelium is inside, and the mucosa is outside. The use of prepuce skin has several advantages such as preventing stricture of the neo-urethra, is available in large quantities so that the length of the neo-urethra can be adjusted, and has good vascularity.



Figure 7. Weeks Post Operation

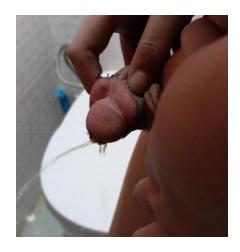


Figure 8. Weeks Post Operation

## **IV. Conclusion**

Recurrent chordee is a complication that can occur after release chordee in two-step hypospadias. The use of the one-step urethroplasty technique on the recurrent chordee using a local preputial is a good technique for correcting hypospadias. Adequate tissue availability, good vascularity, and minimal complications are the advantages of using this technique.

## References

- Azmy AF. Chordee (Penile Curvature). (2004). In Hypospadias Surgery (pp. 115-118). Springer, Berlin, Heidelberg.
- Barbagli G, De Angelis M, Palminteri E, Lazzeri M. (2006). Failed hypospadias repair presenting in adults. European urology. May 1;49(5):887-95.
- Baskin LS, Ebbers MB. (2006). Hypospadias: anatomy, etiology, and technique. Journal of pediatric surgery. Mar 1;41(3):463-72.
- Bhat A. (2007). Extended urethral mobilization in incised plate urethroplasty for severe hypospadias: a variation in technique to improve chordee correction. The Journal of urology. Sep 1;178(3):1031-5.
- Braga LH, Pippi Salle JL, Dave S, Bagli DJ, Lorenzo AJ, Khoury AE. (2007). Outcome analysis of severe chordee correction using tunica vaginalis as a flap in boys with proximal hypospadias. The Journal of urology. Oct;178(4S):1693-7.
- D'hulst P, Darras J, Joniau S, Mattelaer P, Winne L, Ponette D. (2017). Two-Stage Urethroplasty with Buccal Mucosa for Penoscrotal Hypospadias Reconstruction in a Male with a 46, XX Karyotype. Urology case reports. Sep 1;14:45-7.
- Elia R, Pafitanis G, Ciudad P, Chen HC. Accessory penis: (2019). A rare method of peno-urethral separation of sexual function and voiding following successful complex hypospadias reconstruction with a free ileum flap. Archives of plastic surgery. Jul;46(4):381.
- Elmoghazy H, Hussein MM, Mohamed E, Badawy A, Alsagheer G, Elhamed AM. (2016). A novel technique for repair of mid-penile hypospadias using a preputial skin flap: results of 110 patients. International urology and nephrology. Dec 1;48(12):1943-9.
- Kajbafzadeh AM, Arshadi H, Payabvash S, Salmasi AH, Najjaran-Tousi V, Sahebpor AR. (2007). Proximal hypospadias with severe chordee: single stage repair using corporeal tunica vaginalis free graft. The Journal of urology. Sep;178(3):1036-42.

- Schlomer BJ. (2017). Correction of residual ventral penile curvature after division of the urethral plate in the first stage of a 2-stage proximal hypospadias repair. Current urology reports. Feb 1;18(2):13.
- Simanjuntak, E., Sanusi, S.R., and Asfriyati. (2020). Batak Women's Reproductive Health Rights in Determining the Number of Children and Joining the KB Program. Britain International of Humanities and Social Sciences (BIoHS) Journal Vol. 2, (2): 412-420.