One-Step Urethroplasty in Recurrent Chordee on Scrotal Hypospadia

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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 chordee

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 hypospade 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 hypospadias 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
of trauma to the genital area. The patient was diagnosed with scrotal-type hypospadias 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](image1)

![Figure 2. Pre Operation with Catheter](image2)

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](image3)

![Figure 4. Intra Operation](image4)
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).

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.
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.

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