

**Primary repair of extensive rectal injury during urethroplasty in children without bowel preparation: report of two cases**

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## **ABSTRACT**

Today, there are several methods to repair colon and rectal injury such as primary repair, stoma, resection with anastomosis and damage control only. To our best knowledge, there is no definite method published in literature about iatrogenic rectal injury during perineal urethroplasty in children. Here we explain two 10 and 12-year old boys with iatrogenic rectal injury during perineal urethroplasty that underwent primary repair. Due to our experience, primary repair of rectum in such condition is feasible, successful and it can be a good choice to avoid placing colostomy and secondary repair.

## **INTRODUCTION**

Today, there are several methods to repair colon and rectal injury such as primary repair, stoma, resection with anastomosis and damage control only <sup>(1)</sup>. Despite the method of choice to repair the injury is controversial, primary repair has been more preferred in recent years.<sup>(2-4)</sup> To our best knowledge, there is no standard method in the literature for repairing iatrogenic rectal injury during perineal urethroplasty in pediatrics. Here we explain two 10 and 12-year old cases with primary repair of iatrogenic rectal injury during perineal urethroplasty with no bowel preparation.

## **CASE REPORT**

A 10-year old boy was referred to our center with totally blunt urethra and inability to void. He had undergone pelvic fixation, urethroplasty and repair of the bladder two years ago, after an extensive pelvic damage due to a car accident. He underwent internal urethrotomy three times during the past two years because of the urethral stenosis recurrence (figure 1).

After placing a cystostomy he became candidate to repeat urethroplasty (perineal end to end anastomotic urethroplasty). No bowel preparation and rectal washing was done before the surgery. In a lithotomy position after perineal exploration, we found the urethra but because of the adhesion and fibrosis band and difficult tissue dissection the rectum became perforated about 5cm. (figure 2) after washing the field of surgery with adequate amount of saline normal serum and replacement of surgical draping and instruments, we repaired the rectum with vicryl and silk sutures in 2 layers. And then urethroplasty was performed using the standard method. <sup>(5)</sup>

This scenario was repeated for a 12-year old boy with history of epispadias, bladder exstrophy, mega penis and perineal surgery for urethral stricture and fistula. His extended iatrogenic rectal injury during dissection, was also repaired in 2 layers after cleaning the field of surgery.

The patients were allowed to start diet 6 hours after surgery. No evidence of rectal bleeding, ileus, abdominal pain and any related complications was observed. Foley catheter was removed after 10 days; and voiding and defecation were uneventful afterward. Figure 3 shows the bladder and urethra after 6 month of surgery. There was no voiding problem at their last follow up visits (6 months).

## **DISCUSSION**

To the best of our knowledge, this is the first experience of primary repair of rectal injury during perineal urethroplasty in pediatrics. Gobbi et al reported repairing congenital urethral strictures in seven infants <sup>(6)</sup>; and Jianpo et al reported a successful perineal urethroplasty in a nine-year old boy with long pelvic fracture urethral distraction<sup>(7)</sup>; however there was no experience of rectal injury during surgery in either.

Former experiences in adults have shown primary repair of rectum and placing colostomy as logical and available in patients with iatrogenic rectal injury. In agreement, Aragon et al indicated primary repair as a safe procedure in the evaluation of 481 patients with abdominal trauma and colon injury <sup>(2)</sup>, however Burak Veli et al did not find any difference in outcomes after primary repair and colostomy placement <sup>(8)</sup>. In the evaluating of 10 patients, Papadopoulos et al observed that colonic diversion should only be considered if the colon or rectal tissue was inappropriate due to severe ischemia or edema <sup>(9)</sup>. Surgery during the 6 hours and in hemodynamically stable patients had a lower risk of complications. Past studies have shown that hypotension and unstable hemodynamics increased the incidence of collections and abscesses <sup>(10, 11)</sup>; many of these studies are conducted on patients with abdominal trauma and trans-peritoneal approach. Hosseini et al evaluated erectile function in 65 adult patients with history of perineal urethroplasty. <sup>(12)</sup> Qiang Fu et al reported 28 out of 573 patients with rectal injury who underwent urethroplasty; all of which were primarily repaired, and a few of them undergone temporarily colostomy placement. <sup>(13)</sup>

Finally, it is worthy of note that we performed no bowel preparation and rectal washing was done before the surgery. The patients became PO 6 hours after the surgery without any problem.

Although It is better to do bowel preparation before these surgeries, we aimed to show the feasibility of primary repair without stoma in this situation.

## **CONCLUSION**

Due to our experience, primary repair of rectal injury during perineal urethroplasty in children is feasible can be a preferable choice, in order to avoid colostomy placement and secondary repair.

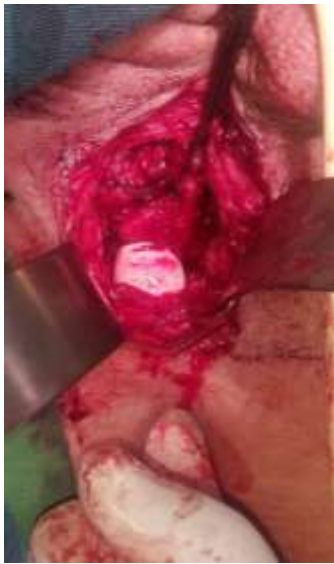
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*Figure 1: blunt urethra in urethrogram and evidence of previous surgery*



*Figure 2: digital rectal exam: tip of the finger that comes out of the rectal tear site shows the extent of injury*



*Figure 3: urethrogram after 6 months of surgery*