

## Original Article

# Surgical management of rectourethral fistula after anoplasty: a case report

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Received January 2, 2019; Accepted June 5, 2019; Epub August 15, 2019; Published August 30, 2019

**Abstract:** Rectourethral fistula after anoplasty is a common disease. This study reports on a 7-year-old male child with rectourethral fistula after anoplasty. The main clinical manifestation was leakage of urine from the anus. The child had undergone the anoplasty in other hospitals due to no anus. Routine voiding cystourethrography showed urethral fistula. The rectourethral fistula neoplasty with transperineal approach was performed with a surgical duration of 64 minutes. During surgery, there were no obvious complications such as wound infection, wound dehiscence, rectal retraction, etc. The fistula was completely healed 2 weeks after the surgery. On the 2nd month after surgery, the appearance of anus was satisfactory, with no fecal incontinence. The child was followed up for 2 years, and had normal urination. The surgical operation is simple and feasible and the outcome was satisfactory.

**Keywords:** Rectourethral fistula surgery, anoplasty, transperineal approach

## Introduction

Rectourethral fistula after anoplasty is a common disease. It usually occurs when the children without anus undergo improper surgery or iatrogenic recto-urethral fistula caused by urethra injury in anal surgery. Its clinical manifestation is leakage of urine from the anus or feces mixing in the urine, seriously affecting the children's physical and mental health, which requires surgical treatment [1, 2]. Currently, rectourethral fistula neoplasty includes a anterior transperineal approach, a transanal approach, and a posterior sagittal approach [3-6]. Here, a 7-year-old male child with rectourethral fistula after anoplasty is reported who received rectourethral fistula neoplasty with a transperineal approach. The surgical outcome was observed.

## Case report

A 7-year-old male child with rectourethral fistula after anoplasty was treated. The main clinical manifestation was leakage of urine from the anus. This child had undergone anoplasty in other hospitals due to no anus. Routine voiding cystourethrography (**Figure 1**) showed the urethral fistula.

The child underwent preoperative conventional Foley catheter indwelling. As for the children whose catheter entered the rectum through fistula and could not reach the bladder through the urethra, the rectofistula was blocked by the assistant's index finger and the catheter was inserted through the urethra. At this time, the catheter could smoothly enter the bladder. After indwelling catheter, the ureteral catheter was inserted through the external urethral orifice. The ureteral catheter could enter the rectum through the recto-urethral fistula (**Figure 2**).

Rectourethral fistula neoplasty was performed. The distance from the rectal internal fistula orifice from anal edge skin was 2.0 cm. The transperineal approach surgery was conducted. The child was in lithotomy position. The anal orifice and rectal anterior wall were split through the anterior transperineal median sagittal approach. The traction wire was pulled around the fistula orifice. The fistula was dissociated toward the urethra using the needle electro-tome, which was stopped when the electro-tome reached the posterior urethra wall. The fistula was resected. The urethra was transversely sutured outside the mucosa. The longitudinally dissected anterior rectal wall was interruptedly

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**Figure 1.** Voiding cystourethrogram.

sutured. The incisions were closed layer by layer.

The surgical duration was 64 minutes and during the surgery, there was no obvious complications including wound infection, wound dehiscence, rectal retraction, etc. The fistula was completely healed 2 weeks after surgery. On the 2nd month after surgery, the appearance of the anus was satisfactory, with no fecal incontinence. The child was followed up for 2 years, and had normal urination.

### Discussion

Rectourethral fistula is a common complication of anoplasty. There is a vaginal barrier between the rectum and urethra in girls. Therefore, anoplasty often occurs in boys. Its clinical manifestation is leakage of urine from the anus or feces mixing in the urine, seriously affecting the children's physical and mental health. For residual rectourethral fistula caused by anoplasty or iatrogenic injury, different operation methods could be selected according to the location of urethral fistula, anal appearance, and function. The anal appearance and function of the child was good in this study. The operation method mainly depended on the distance from the rectal internal fistula orifice to anus. So the fistula location should be clarified initially. The ureteral catheter was inserted through the urethral external orifice after indwelling catheter. This catheter could basically enter the rectum through the recto-urethral fistula.



**Figure 2.** Ureteral catheter entering the rectum through the recto-urethral fistula.

In this study, the child underwent the anterior or transperineal approach. The operative field could be clearly exposed and the operation was in place. The suture was from the intestinal wall to intestinal wall and skin to skin, with the same tissue being more conducive to healing of the incision. For the sutures of the urethra, rectum, and other hollow organs, the outer mucosal suture was more conducive to wound healing [7]. Foreign scholars proposed gracilis transposition, pigskin graft, greater omentum interposition, ischiorectal fossa fat pad interposition to ensure the urethral fistula healing after urethral fistula repair [8-10]. The postoperative effect was satisfactory, but the operation was complicated.

The child in this study had good anal appearance and defecation function. He underwent the anterior transperineal operation and the perianal sphincter was sutured *in situ*. The postoperative anal dilation was not required. For the children with scar stenosis, the anal dilation should be performed for 3-6 months. If the children are combined with the urethral fistula, the anal appearance and defecation function are poor, the postoperative anal clinical score is lower, and the posterior sagittal anoplasty should be preferred choice. At the same time of urethral fistula neoplasty, the rectum and forming anus are replaced under the guidance of electrical stimulation instrument [11]. The postoperative routine anal dilation treatment is performed.

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In conclusion, rectourethral fistula neoplasty with transperineal approach has been successfully performed in a 7-year-old male child with rectourethral fistula after anoplasty. The surgical operation is simple and feasible, and the outcome is satisfactory.

### Disclosure of conflict of interest

None.

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