

*Case Report*

## Successful Treatment of an Urethro-rectal Fistula Using Gracilis Muscle Rotation Flap – Report of a Case

Yen-Shin Hsu<sup>1</sup>  
Hong-Zhang Chen<sup>1</sup>  
Sheng-Hsien Huang<sup>2</sup>  
Wen-He Wang<sup>3</sup>  
Xuan-Yuan Huang<sup>1</sup>  
Cai-Yi Zeng<sup>2</sup>  
Ting-Ming Huang<sup>1</sup>  
Chin-Po Chang<sup>2</sup>

<sup>1</sup>Department of Surgery, Division of  
Colorectal surgery,

<sup>2</sup>Urology,

<sup>3</sup>Plastic surgery, Chang-Hua Christian  
Hospital, Chang-Hua, Taiwan

Rectourethral fistula is an uncommon complication of prostatic or rectal surgery and radiotherapy without standard and ideal therapy. We report a serious complication of prostatourethral-rectal fistula induced by laser vaporization of the bladder neck failed to excision and repair the fistula directly. We successfully performed a fistulectomy via a transperineal approach followed by reconstruction with a gracilis muscle flap. The patient has remained asymptomatic with good cosmetic results till now. Our results indicate that this procedure is simple and effective and carries less morbidity than other approaches of treating difficult rectourethral fistula. [*J Soc Colon Rectal Surgeon (Taiwan) 2010;21:106-110*]

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### Key Words

Rectourethral fistula;  
Transperineal approach;  
Gracilis muscle flap

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**R**ectourethral fistula is an uncommon occurrence with a variety of congenital and acquired causes, such as trauma, neoplasm, infection, inflammation, and iatrogenic injury. Iatrogenic rectourethral fistulas often occur as a complication of prostatic or rectal surgery and radiotherapy.<sup>1</sup> Surgical closure and reconstructive procedures are usually performed, but no single procedure has proven to be universally applicable. We herein report the occurrence of a prostatourethral-rectal fistula induced by laser vaporization of bladder neck contracture and describe a surgical method utilizing a gracilis muscle flap to close the defect

between the urethra and rectum.

### Case Report

A 59-year-old male with urothelial cell carcinoma of the bladder neck initially received transurethral resection of the prostate (TURP) and bladder neck tumor. However, bladder neck contracture developed approximately 6 months after the operation. Transurethral resection of the bladder neck (TUR-BN) was performed; then, bladder neck contracture occurred

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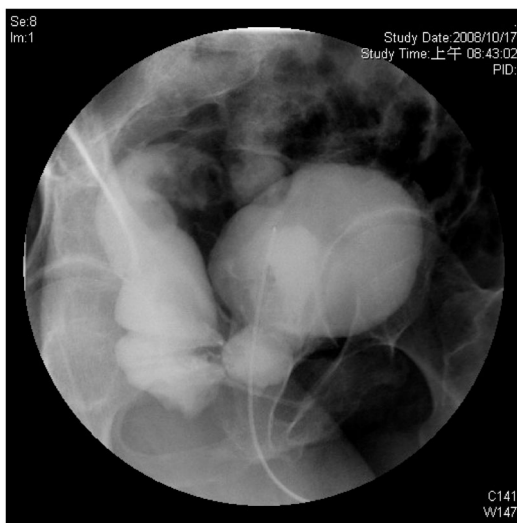
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Correspondence to: Dr. Hong-Chang Chen, Division of Colorectal Surgery, Department of Surgery, Chang-Hua Christian Hospital, Chang-Hua, Taiwan. Tel: +886-4-723-8595 ext. 3681; Fax: +886-4-722-8289; E-mail: 54464@www.cch.org.tw

again. TUR-BN was performed again, but contracture recurrence. In total, the patient received TUR-BN 9 times within followed 4 years. In order to treat the bladder neck contracture, laser vaporization of bladder neck was performed. The procedure was completed without complications and the Foley catheter was removed 3 days postoperatively and the patient discharged in good condition.

However, 6 days after the procedure, urine-like fluid was noted draining from the anus. Voiding cystography and cystoscopy revealed a prostatic-urethral-rectal fistula (Fig. 1). Transrectal primary closure and a fecal/urinary diversion procedure were performed; however, one month later the fistula had reoccurred. Due to there was no adequate soft tissue covering the fistula defect; we chose a gracilis muscle rotation flap reconstruction to create a partition. First, the patient was placed in a jack-knife position and a fistulectomy via a transperineal approach and debridement of fibrotic tissue were performed (Figs. 2 & 3). Then the patient was placed in the lithotomy position, and we harvested a gracilis muscle rotation flap to create a barrier between the rectum and urethra (Figs. 4 & 5).

One month after the procedure, we closed the diverting colostomy. Follow-up voiding cystourethrogram indicated no defect of the urinary bladder. (Fig. 6). The patient has remained symptom free at 10 months postoperatively.



**Fig. 1.** Voiding cystourethrogram indicating a fistula between prostatic urethra and the rectum.



**Fig. 2.** Anoscopic view of the fistula.



**Fig. 3.** Transperineal approach for fistulectomy.



**Fig. 4.** Left gracilis muscle flap was harvested.

## Discussion

Rectourethral fistula is a rare complication of laser vaporization operation. Other causes include infection, trauma, cancer, or iatrogenic injury. In addi-



Fig. 5. Gracilis muscle flap rotated into position.

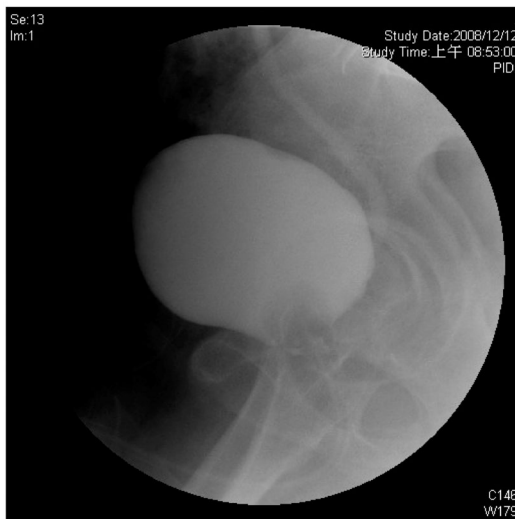


Fig. 6. Postoperative voiding cystourethrogram indicates intact urinary bladder.

tion, fistulas can result from colorectal disease and surgical procedures involving the rectum and bladder. Spontaneous healing of fistulas is rarely seen, and surgery is almost necessary to correct the problem. Surgical treatment is challenging, and usually includes a fecal diverting with colostomy, correction of the fistula, and then closure of the colostomy.

The two primary classes of techniques for the treatment of fistula are local repair and tissue transposition. There are a variety of methods that include the combined use of a scrotal dartos flap interposition with a modified anterior rectal wall flap (Park's technique),<sup>2</sup> a transsphincteric-transrectal approach (York Mason technique),<sup>3,4</sup> transperianal repair using a full-

thickness local flap of the anterior rectal wall,<sup>5</sup> anterior rectal advancement flaps,<sup>6</sup> the Kraske's approach,<sup>7</sup> as well as omental transposition. But no single method is universally applicable as standard and ideal treatment due to high recurrence rate and complications.

Although it is a more complex procedure compared with other primary closure methods, a muscle transposition flap may be the option of choice for large, irradiated, or recurrent fistulas where there is a large area of scarred or poor-quality tissue like our patient treated with twice surgical treatments.<sup>8</sup> Several studies have shown that by bringing a new muscle between the rectum and urethra, a muscle flap provides sufficient bulk to prevent recurrence by its well blood supply and recovery.<sup>9,10</sup> In this case, we utilized a Jack-knife position to approach the fistula site from deep within a perineal incision, which was different from other methods, but provided good operative exposure for excise the fistula and scarring tissue. Then we change the patient to a lithotomy position to harvest the gracilis muscle rotation flap to build a barrier between the urethra and the rectum following resection of the fistula. The previously diversion colostomy allowed flap stabilization and well healing, after which the colostomy was closed.

In summary, we believe the repair of rectourethral fistulas with a gracilis muscle rotation flap is effective and carries less morbidity than other procedures used to treat this type of fistula.

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**病例報告**

## 病例報告-以股薄肌皮瓣重建手術 治療直腸尿道瘻管的成功經驗

徐彥勳<sup>1</sup> 陳宏彰<sup>1</sup> 黃勝賢<sup>2</sup> 王文禾<sup>3</sup> 黃玄遠<sup>1</sup>  
曾采藝<sup>2</sup> 黃燈明<sup>1</sup> 張進寶<sup>2</sup>

彰化基督教醫院 外科部 大腸直腸外科<sup>1</sup> 泌尿外科<sup>2</sup> 整型外科<sup>3</sup>

直腸尿道瘻管是一種在攝護腺手術或是直腸手術以及放射治療的少見併發症，目前也無標準且理想的治療方法。我們提出一個由於膀胱頸雷射手術併發的攝護腺部尿道直腸瘻管，並且經由直接切除併修補手術治療失敗的病例。我們成功的實行了瘻管切除並且經由會陰進行股薄肌皮瓣重建手術。術後病人瘻管症狀痊癒並且在外觀上獲得不錯的結果。因此在治療直腸尿道瘻管的方法中，我們認為這個手術方式是比較簡單並且有效，同時少見有併發症的。

**關鍵詞** 直腸尿道瘻管、經會陰部進行、股薄肌皮瓣。