

# A method that facilitates urethral catheterization after internal urethrotomy

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## ABSTRACT

Internal urethrotomy is the first treatment option of the urethral stricture. Urethral catheterization may be difficult after internal urethrotomy in some patients. In this case report, we describe a method to facilitate insertion of urethral catheter in patients in whom urethral catheterization is challenging following internal urethrotomy.

**Keywords:** Catheterization; urethral stricture; internal urethrotomy.

## Introduction

Recently, endourological procedures applied in the diagnosis and treatment of the pathologies related to both the upper urinary system and the lower urinary system have been performed frequently because of the development of endoscopic devices. There is a serious increase in the number of urethral injuries and urethral strictures due to endourological procedures in the diagnosis and treatment of urinary tract pathologies and traumatic catheterization.<sup>[1]</sup>

The first choice for the treatment of urethral stricture is direct visual internal urethrotomy (DVIU) and the placement of a urethral catheter as being quick, easy, widely available and safe.<sup>[2]</sup> In some cases, even if an adequate urethral lumen is created after DVIU, it may be difficult to insert the urethral catheter. While this problem can be overcome with sliding the catheter over a guide wire in a group of patients, this maneuver may not be successful in some patients. This is because the catheter does not slip from the site of an incised stricture and can not be passed into the proximal part.

In this case report, we present our method of placing the urethral catheter in the patients

whose urethral catheter cannot be moved forward through the incised area of the urethra to the bladder after DVIU.

## Case presentation and description of the method

A 57-year-old male patient was admitted due to difficulty of voiding and recurrent urinary tract infections. Physical examination revealed that the patient had hypospadias and the external urethral meatus was pinpoint size and located in the middle part of the penis. The corpus spongiosum was undeveloped until the penoscrotal area. The patient had a history of traumatic urethral catheterization after cardiac surgery and coronary artery stenting. He was taking antiaggregant treatment. Antiaggregant treatment was stopped one week before surgery following approval from a cardiologist.

The patient underwent surgery in supine position under general anesthesia. After introducing a traction suture to the glans penis, the hypospadic and pinpoint external urethral meatus was opened up to the penoscrotal area and the healthy urethral part was reached. The urethral lumen was very narrow until

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this area. The urethral lumen in the penoscrotal area was large enough to insert a 16 F urethral catheter. A 16 F urethral catheter was attempted to be inserted into this area. However, the urethral catheter could not be passed from the bulbar urethra to the bladder. The patient was put into the lithotomy position and a urethroscopy was performed. There was a severe bulbar urethral stricture. After inserting a guide wire into the bladder, DVIU was done via cold knife and the urethral lumen was opened. The urethroscope was passed to the bladder. Wherein a 2 cm urethral stricture with 2 cm distance to the external urethral sphincter was observed. There was no bladder pathology. After leaving a guide wire in the bladder, the urethroscope was removed and a 16 F urethral Foley catheter was attempted to be inserted into the bladder by sliding it over the guide wire. The

urethral catheter was not passed to the bladder from the stricture area. After that, a 7.5 F semi rigid ureteroscopy was performed and an 18 F Chiba needle was inserted into the bladder from the suprapubic area under direct visual control (Figure 1). After seeing the needle in the bladder, the needle mandren was removed. A guide wire was inserted to bladder through the Chiba needle. The guide wire was taken out through the urethra (Figure 2, 3). A tip-cut 16 F urethral Foley catheter was slid over the guide wire into the bladder (Figure 4). While the catheter was sliding over the guide wire, the bladder and urethral sides of the guide wire were held in tension. After this maneuver, the urethral catheter was easily slid over the guide wire into the bladder.



Figure 1. Suprapubic puncture using a Chiba needle



Figure 3. One end of the guide wire is out from the urethra and the other end from the suprapubic area



Figure 2. Insertion of a guide wire through a Chiba needle into the bladder and taken out from urethra with the aid of a semi rigid ureteroscopy

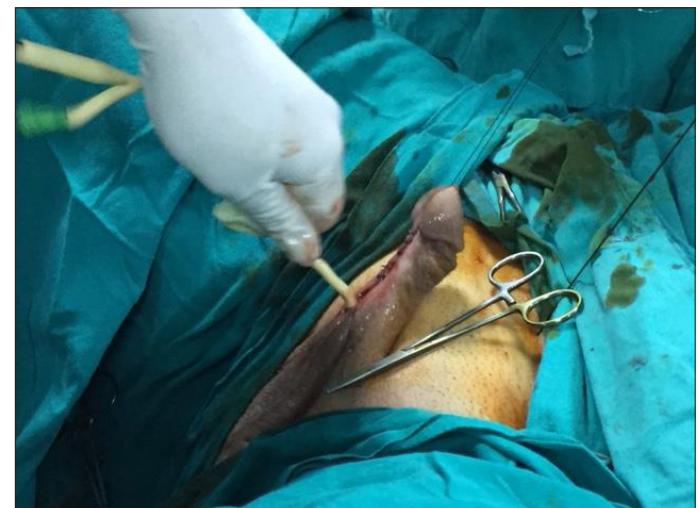


Figure 4. Sliding the urethral catheter through the guide wire

## Comments

Urethral stricture is a disease that is the reason for narrowing of the urethral lumen. The causes are external trauma, genitourinary infections and iatrogenic interventions including urethral instrumentation, endoscopic surgeries or pelvic radiotherapy.<sup>[3]</sup> Traumatic catheterization and endoscopic surgeries with oversized endoscopes have been reported to be responsible for 45 percent of the cases with urethral stricture.<sup>[1]</sup>

The choice of the treatment depends upon the localization, length, severity and cause of urethral stricture. Urethral stricture can be treated by endoscopic and open surgical procedures. Endoscopic treatment includes DVIU and urethral dilatation.<sup>[2,4]</sup> DVIU is performed using cold knife and/or laser.<sup>[2]</sup> After DVIU, urethral catheter placement may prove to be difficult in some patients. The catheter may not be moved over the guide if it is not held in tension by pulling the guide wire from both ends. This may be due to the non-slip of the catheter from the scarred urethral area. The method, that we described in this case report, makes the urethral catheter placement easy through the urethra. The main point of this method is to keep the guide wire in tension.

In our patient, the urethral catheter was changed with a 18 F Foley catheter in the 5<sup>th</sup> day after surgery and with a 20 F Foley catheter in the 10<sup>th</sup> day after surgery. The urethral catheter was removed in 15<sup>th</sup> day after the surgery. The urethral plate healed well. The patient has no difficulty voiding. He is waiting for urethral reconstruction surgery in the next three months.

In conclusion, we do not claim that this is the best and sole method for inserting a urethral catheter after DVIU. It is certain

that this is not necessary in all cases after DVIU. In cases where difficulty of urethral catheter insertion is present, this method should be considered for the management of this problem.

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