

## The Bedside Flexible Cystoscopy: The Right Answer to Difficult Catheterization in Adult Acquired Buried Penis. A Case Report

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### ABSTRACT

Although placement of transurethral catheter may seem simple, this procedure represents the most common cause of urologic consultation. In men, the inability to place a urethral catheter could result from an urethral stricture, severe phimosis, false passage. The blind urethral procedures with mechanical or metal sounds without visual guidance or guidewire assistance are commonly used. This approach must be discouraged due to the high risk of urethral trauma or false passages that can rapidly turn into a severe complication. The management of a difficult catheterization lacks a standardized protocol. This lack is further felt in the case of infrequent but emerging clinical conditions often requiring a prompt and effective response, especially in an emergency medical setting. In particular, we refer to the case of the buried penis syndrome in adults, an infrequent but progressively increasing reason of difficult catheterization. We present a case of an obese patient entered the emergency room for urinary retention. The penis was buried also by a voluminous inguinal-scrotal hernia.

**Key words:** Buried penis; Difficult catheterization; Flexible cystoscopy

### INTRODUCTION

The Buried Penis Syndrome (BPS) refers to the concealment of a normal sized penis within the surrounding tissues. In children, this condition is common and well described but, in adult, the scientific literature is not consistent. However, the steady increase in the obesity rate made the buried penis in adults a more frequent pathology. Others possible causes are an inadequate attachment of the penile skin to the shaft, a significant genital lymphedema, hidradenitis of the genitals and post-circumcision scar tissue. The BPS could be due to the presence of voluminous hydroceles and/or hernias.<sup>[1]</sup> Any condition that leads to burying the penile shaft make challenging and impossible

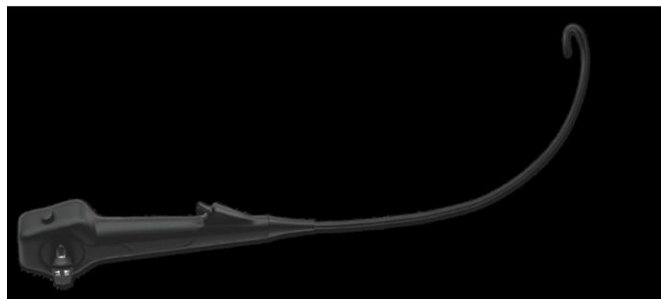
urethral catheterization. Different approaches to the difficult male urethral catheterization are described in the literature.<sup>[2]</sup>

The purpose of this case report was to describe a rapid and affordable method for the catheterization of patients with BPS evaluated in emergency department due to an Acute Urinary Retention (AUR).

### CASE REPORT

We present a case of a 61 years old obese patient (BMI 30 kg/m<sup>2</sup>) presenting to the emergency department for AUR. The penis was buried by a voluminous inguinal-scrotal hernia. Medical history revealed late onset diabetes but no other relevant co-morbidities. The urethral meatus was invisible. As the patient suffered from AUR, a transurethral catheter had to be inserted. Suprapubic catheter insertion was challenging due to the big abdominal apron. The manual palpation failed to reach external urethral meatus. However, given the high risk of causing false urethral tracts and the no visualization of the meatus, we decided to perform a bed side Flexible Cystoscopy (FC) in order to visualize penile glans and to place, under direct vision, into the urethra and into the bladder a guidewire for the urethral catheter placement.

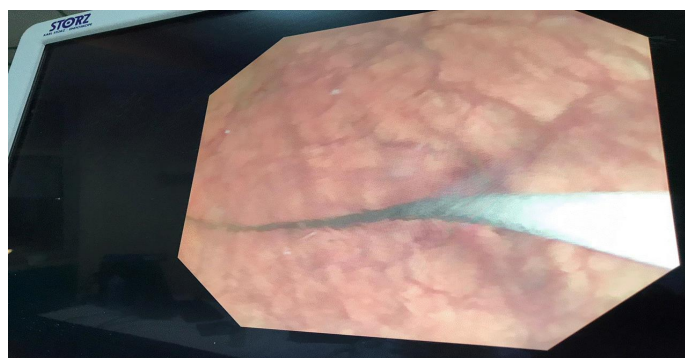
Using the FC (Single use flexible cystoscope, Innovex Shanghai AnQing Medical Instruments Co., Ltd) (Figure 1) it was possible identify under direct vision the meatus and to safely place the bladder catheter (Figure 2-3-4). Urethral lumen was patent. Only a protrusion of the lateral prostatic lobes was evidenced. No complications were encountered, demonstrating that this technique must be considered simple and able to avoid suprapubic puncture, and to minimize unnecessary trips to the operating room.



**Figure 1:** The Flexible Urethroscope employed for the bedside procedure.



**Figure 2:** The endoscopic view of penis glans tip.



**Figure 3:** The guidewire passed into the bladder.



**Figure 4:** The urethral catheter at the end of the procedure.

## DISCUSSION

In men, the routine placement of transurethral catheters can be challenging in case of urethral strictures, severe phimosis and false passages. Also the BPS represents a challenging situation for Urethral Catheterization (UC). BPS consists in the concealment of a normal sized penis within the surrounding tissues. In case of adults affected, the scientific literature is not consistent but there is an increase in the incidence due to the high frequency of obese patients attending to emergency departments. Adult BPS could be determined by an inadequate attachment of the penile skin to the shaft, a significant genital lymphedema, hidradenitis of the genitals, post-circumcision scar tissue and, finally, to the presence of voluminous hydroceles and/or hernias. Therefore, the UC in adults BPS could be a progressively increasing reason of difficult catheterization and a common cause of urologic consultation. The blind urethral procedures with mechanical or metal sounds without visual guidance or guidewire assistance are commonly used. This approach must be discouraged due to the high risk of urethral trauma or false passages that can rapidly turn into an urgency. The management of a difficult catheterization lacks a standardized protocol. The blind urethral procedures with mechanical or metal sounds without visual guidance or guidewire assistance must be discouraged due to the increased risk of several serious potential complications.<sup>[3]</sup>

Suprapubic Catheterization (SC) is an invasive type of indwelling urinary catheter as they require a small surgical procedure for initial placement. The percutaneous route is the preferred approach but difficulties could be encountered due to unusual body habitus, contractures or uncontrollable patient movements. As in our case, the abdomen conformation made the SC very challenging.

Furthermore, the blind placement guidewire, even under ultrasound control, can be successfully placed in 80% of cases<sup>[2]</sup> with a high risk of urethral lesions. In particular, our patient was affected by AUR without any information about the etiology. Both the difficult visualization of external meatus and the leak of a rapid differential diagnosis about AUR, recommended FC as urethral catheterization tool. The technique was first described by Krikler in 1989 and was modified by Beagler in 1994.<sup>[4-5]</sup> With FC the correct urethral lumen is usually found easily and the cystoscope can be advanced into the bladder making guidewire placement very simple. The direct visualization helps to identify the exact location and nature of the obstruction avoiding false passages. In our case, FC permitted the direct visualization of the meatus on the glans tip, due to the insertion into the tunnel of fat leading to the penis. The guidewire could be inserted under direct vision until the bladder and the catheter advanced over them. Before the advancement, the 12 ch silicon catheter was modified with an 18 gauge angiocath using the Blitz technique.<sup>[6]</sup> A treatment cart was constructed allowing us to transport the FC. The cart consisted of a mobile light source, sterile irrigating fluid, cystoscopic tubing, guide wires and catheters. These instruments are readily available in any urology department. The procedure can be done under sterile conditions in a short period of time and without anesthesiologist assistance, in a bedside setting.

## **CONCLUSION**

This is a quick, simple and safe method of UC under direct vision in patients suffering from BPS. This problem is likely to be more commonly encountered with the increasing numbers of obese patients or inguinal/scrotal pathologies. The FC is usually well tolerated method with minimal discomfort perceived by the patients. The instrument is portable and patients can be examined in various positions, allowing for bedside diagnostic and therapeutic procedures. This technique has various advances such as the ability of treatment outside the operating room without the need for the support of an anesthetist, the easy availability of the necessary tools and the low costs of the procedure.

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