Perineal urethrostomy—fast and safe access for TURB in associated long penile urethral stricture cases


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Abstract

**Introduction and Objectives**: TURB remains the standard in non muscle invasive bladder tumour treatment but sometimes the transurethral access is difficult or impossible because of long penile urethral strictures. In this paper we are trying to draw attention on perineal urethrostomy as an easy and fast access for TURB in patients with associated long penile urethral strictures.

**Materials and methods**: Between 2008-2013 we performed 36 perineal urethrostomies for different urethral pathology: penile or urethral carcinoma, recurrent long anterior urethral strictures associated with adverse conditions like periurethritis or lichen sclerosus. In 4 cases perineal urethrostomy was performed for allowing the access for TURB in cases with bladder tumors and long penile urethral strictures. With the patient in a lithotomy position, a vertical incision through the perineum is made, and after the fat tissue is being dissected, the bulbocavernous muscle is being incised. The bulbar urethra is being exposed and a 2-3 cm vertical incision on its ventral surface is made. When maturing the urethrostomy, 3 layers are being incorporated in the suture: the urethral mucosa, the adventitia of the spongiosus corpus and the skin, without suturing the muscle body of the spongiosum in order to preserve the lateral blood flow through the corpus spongiosus. After the maturation of the perineal urethrostomy a TURB is performed in a standard manner with a 26 Fr resectoscope.

**Results**: Through the perineal urethrostomy a good access for TURB has been obtained. The operating time was 20 min. An uretral reconstruction with BMG and the closure of the urethrostomy can be attempted 6 months after two consecutive cystoscopic negative controls.

**Conclusions**: Perineal urethrostomy is a fast and safe access for TURB in patients with non muscle invasive bladder tumour and associated recurrent long penile urethral strictures and it should be present in the standard armamentarium of any urologist. Through this approach an open surgery on the bladder tumor, with the consecutive risk of tumoral spread, is avoided and a second intervention for urethral reconstruction can be considered after the oncological control of the bladder tumour.

**Keywords**: Perineal urethrostomy, long penile stricture, non muscle invasive bladder tumour, TURB.
Clinical studies

Introduction and objectives

In the modern era of endourology, the TURB has become the standard of care for non muscle invasive bladder tumors.

There is a window for minimal invasive treatment in bladder tumors, and after passing it, there appears to be no advantage in terms of survival in patients undergoing surveillance who progress to cT2 disease, compared to „de novo” cT2 diagnosed patients.

For the optimal treatment and management of Non Muscle Invasive Bladder Tumors, they have been divided in three classes depending of their probability to progress: Low risk (primary solitary Ta, G1, <3cm, no CIS), Intermediate risk (recurrent Ta<3cm, solitary, G1-G2) and High risk (T1, G3, CIS, multiple G1/G2 recurrent and large (>3cm)).

Sometimes a good surveillance and a chance for the treatment of the non muscle invasive bladder tumor cannot be obtained due to anatomic impairments such as urethral strictures.

If a small, limited urethral stricture is encountered, it can be managed through Direct Vision Internal Urethrotomy (DVIU) but this option no longer stands in patients with long anterior urethral strictures, with thick spongiosfibrosis, or associated pathologies like Lichen Sclerosus.

Nevertheless when the problem of bladder emptying appears, in cases with evolving urethral obstacle which leads to incomplete or complete urinary retention, the otherwise normal suprapubic cystostomy does not represent an alternative considering the risk of tumor spreading outside the bladder and colonization of the cystostomy tract.

For this cases we would like to draw the attention on perineal urethrostomy, an easy and fast access for TURB in patients with associated long penile urethral strictures.

Materials and Methods

In our center we have performed between 2008-2013 a number of 36 perineal urethrostomies for different urethral pathology such as: penile or urethral carcinoma, recurrent long anterior urethral strictures associated with adverse conditions like periurethritis or lichen sclerosus.

In 4 cases the perineal urethrostomy was performed for allowing access in order to perform TURB in patients with bladder tumors and associated long penile urethral strictures.
The patient is placed in a lithotomy position, and a median, vertical incision through the perineum is made. (Fig. 1) The Colles fascia is being incised and the fat tissue is dissected.

The bulbocavernous muscle is incised and the bulbar urethra is exposed. (Fig. 2)

A 2-3 cm vertical incision is performed on its ventral surface, in order to expose the urethral lumen. (Fig. 3).

After passing a Beniquet 26 Fr probe in order to obtain confirmation of the permeability of the bulbar urethra, the urethrostomy is matured.

In the suture 3 layers are incorporated: the urethral mucosa, the adventitia of the spongiosus corpus and the skin. (Fig. 4)

We put great accent on non transecting completely the urethra in order to preserve the urethral dorsal plate and on not suturing the muscle body of the spongiosum when maturing the perineal urethrostomy in order to preserve the lateral blood flow through the corpus spongiosus.

After the maturation of the perineal urethrostomy a TURB is performed in a standard manner using a 26 Fr resectoscope. (Fig. 5, Fig. 6)

After finishing the TURB and carefully obtaining good hemostasis (Fig. 7) , a 20 CH urethral cathether is placed through the urethrostomy, and kept in place for 3 weeks. (Fig. 8, Fig. 9)

**Results**

In all cases we achieved a good access for TURB using the perineal urethrostomy, with a mean operating time of 20 minutes.

The closure of the urethrostomy followed by urethral reconstruction, can be attempted only after control of the bladder tumour.

We prefer to wait 6 months after 2 consecutive
Discussion

Due to the risk of progression and recurrence of Non Muscle Invasive Bladder Tumors a follow-up is always necessary, with the follow-up schedules being individualized for different risk categories.  

These patients have an increased risk of iatrogenic trauma of the urethra, through repeated cystoscopies, trauma which can lead to urethral stricture formation. These urethral strictures are usually managed through Direct Vision Internal Urethrotomy (DVIU), with the amendment that DVIU is not recommended in long urethral strictures or in recurrent urethral strictures.

Besides the iatrogenic group of anterior urethral strictures, patients with NMIBT can have associated pathologies like Lichen Sclerosus or Periurethritis, which can modify the urethral caliber on various lengths, often resulting in long anterior or pen urethral strictures.

As a consequence of complete urinary blockage, some patients present with a cystostomy catheter in place in order to allow adequate urine drainage. This can represent a route of tumor spread, and outside bladder dissemination through the cryptostomy tract, especially in cases with aggressive low grade tumors.

Perineal urethrostomy is a well known method for treating long anterior urethral strictures or pan strictures, as an intermediate step before the urethral reconstruction or in some cases as a definitive treatment, in both cases offering a good life quality, with good patient satisfaction.

By using the perineal urethrostomy as an access method for TURB, the dissemination risk of an otherwise open bladder tumor resection is avoided, and in the same time a temporary or definitive treatment for the urethral disease is obtained.

In performing the perineal urethroplasty there are several factors which must be considered in order to preserve the lateral blood flow through spongiosum, and avoid perineal urethrostomy stenosis.

These are the preservation of the dorsal urethral plate, by not performing a full transection of the spongiosus, and not incorporating the muscle body of the spongiosus in the suture when maturing the urethroplasty in order to preserve the lateral blood flow through the spongiosum.

If the patient wishes to further continue the treatment of the urethral pathology, the closure of the perineal urethrostomy and the urethral reconstruction must be made only after full oncological control of the bladder tumor.

For this our preferred method is to wait 6 months after 2 negative cystoscopic controls before the urethral reconstruction surgery, in which we prefer to use buccal mucosal graft (BMG) for the urethroplasty.

Conclusions

Perineal urethrostomy is a fast and safe access for TURB in patients with non muscle invasive bladder tumour and associated recurrent long penile urethral strictures and it should be present in the standard armamentarium of any urologist.

Through this approach an open surgery on the bladder tumour, with the consecutive risk of tumoral spread, is avoided and a second intervention for urethral reconstruction can be considered after the oncological control of the bladder tumour.

References