

ISCHIAL-URETHRAL FISTULAS IN NEUROGENIC PATIENTS PERFORMING CLEAN INTERMITTENT SELF-CATHETERIZATION: A SINGLE CENTER EXPERIENCE OF A RARE COMPLICATION

Hypothesis / aims of study

Spinal cord injured patients with sacral and sub-sacral lesions usually present with detrusor hypo/acontractility with concomitant weak or normal urethral sphincter function. More often patients are instructed to perform clean intermittent self-catheterization (CIC). Main complications related to CIC are urinary tract infections (UTI) and urethral injuries (urethral bleeding, false passage and urethral strictures). False passages are easier to happen in case of urethral stricture, bladder-sphincter dyssinergia and enlarged prostate (1). There are no data available about the relationship between the development of skin pressure ulcers (ischial especially), urethral erosion and resulting fistulas, in patients with neurogenic bladder dysfunctions undergoing CIC. In this paper we present our single-center experience in dealing with this peculiar complication.

Study design, materials and methods

We retrospectively collected all cases of ischial-urethral fistulas in neurogenic patients performing CIC referring to our Institution. All patients were diagnosed of neurogenic bladder due to spinal cord injury and performed CIC, but one with reflex micturitions and Credè maneuver (performing CIC for post void residuals). Every symptomatic UTI was treated with antimicrobial agents. The diagnosis was made by the plastic surgeon after the development of a skin pressure ulcer in the ischial region, not responsive to conservative topical treatment and requiring surgical toilette. With the use of methylene blue solution injected into the ulcerating lesion, we evidenced the contextual emission of bluish urine. The diagnose was confirmed by radiologic fistulography with contrast medium injected into the ischial lesion and also with retrograde urethrography.

Results

We account 8 cases during the last 2 years. All patients were male, performing CIC without difficulties for more than 5 years and without evidence of any urethral pathology. Mean age was 55 years (range 46 to 73). One patient had diabetes and 2 patients were obese (BMI > 32). One patient was treated 15 years ago for an urethral diverticulum and had a well healed urethra with just a millimetric gap. The 2 youngest patients were initially treated with primary surgical urethral reconstruction with buccal mucosal graft, with good results (fig. 1). One of them was treated with a second surgical revision for persistence of a small residual fistula. The follow-up with cystourethrography did not reveal any fistula nor stenosis. Two patients were treated with new generation urethral stents (E.g. Uventa™)(2); one was removed after 6 months with complete closure of the fistula and absence of stenosis (fig. 2), the other is still in place and the contrastographic control after 1 month evidenced significative reduction of the fistula with filiform appearance. At the contrastographic control at 2 months, we evidenced a displacement of the stent with persistence of the fistula and worsening of the ischial ulcer. The patient underwent subsequent ulcer toilette and repositioning of the stent, with subsequent substitution with a longer stent to prevent its displacement. For the 4 older patients we placed a permanent sovrapubic catheter, excluding the urethra. This decision was due to the patient preference: they refused a step procedure as with buccal mucosal graft and the placement of an urethral stent for the limited evidence of its benefits. We had no septic complication. All surgically treated patients experienced no complications ≥ 2 according to Clavien Dindo.

Interpretation of results

In this work we present a unique collection in medical literature of ischial-urethral fistula in neurogenic patients performing CIC. We noticed that it is present both in younger and older patients. We offered urethroplasty with graft apposition to the younger patients, as the older feared the possible complications of an intervention and were less motivated. Urethral stent placement gave a good result in one patient, but did not provide substantial benefit in another one. We need further experience with this device to clearly determine its beneficial effect.

We still do not know what is the actual relationship between the CIC maneuver and the development of the fistula. One hypothesis is that the ischiatic decubitus is the origin of the disease, that consequently spreads to a chronically inflamed and frail urethra. Another hypothesis is that the process is initiated at the site of a false passage with urinal stasis and subsequent infection of the injured urethra, and subsequent spread of the inflammatory process towards the ischial region. Furthermore we have to consider the chronic bacterial contamination of the urethra of patients performing CIC. Traumatic CIC is difficult to come to medical attention as usually patients have lack of sensibility, underestimate blood traces in the tip of the catheter or do not refer hematuria. In both cases it is warranted a correct and well-trained CIC maneuver and prevention of cutaneous decubiti with adequate aids. The main limitation of this work is the small number of events occurred.

Concluding message

Ischial-urethral fistulas are rare complications, but warrant prompt treatment. In any case of high-grade ischial cutaneous lesion, a possible urethral involvement should be ruled out. Surgical urethral reconstruction may be a difficult solution in a patient spending his life sitting on a wheel chair, but new generation stents (E.g. Uventa™) could represent a valid and safe alternative with little invasiveness.

Fig. 1 Urethral reconstruction with buccal mucosal graft: cystourethrography before and after treatment

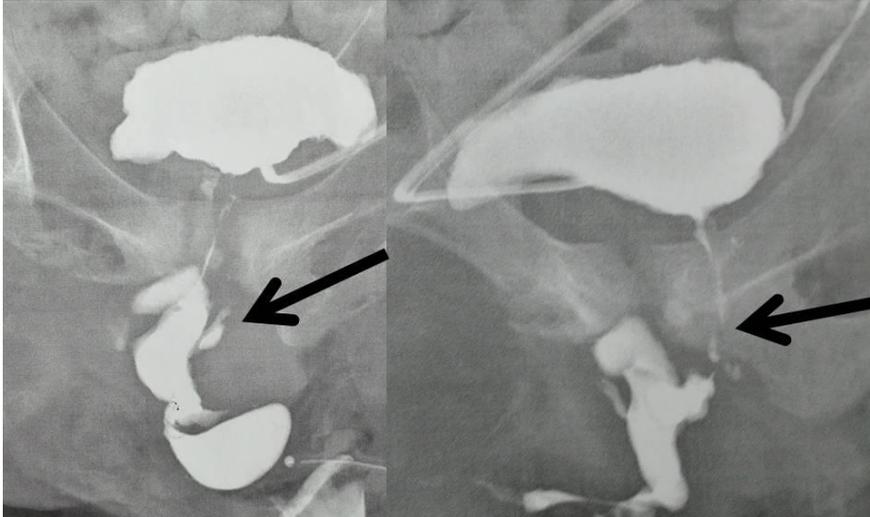
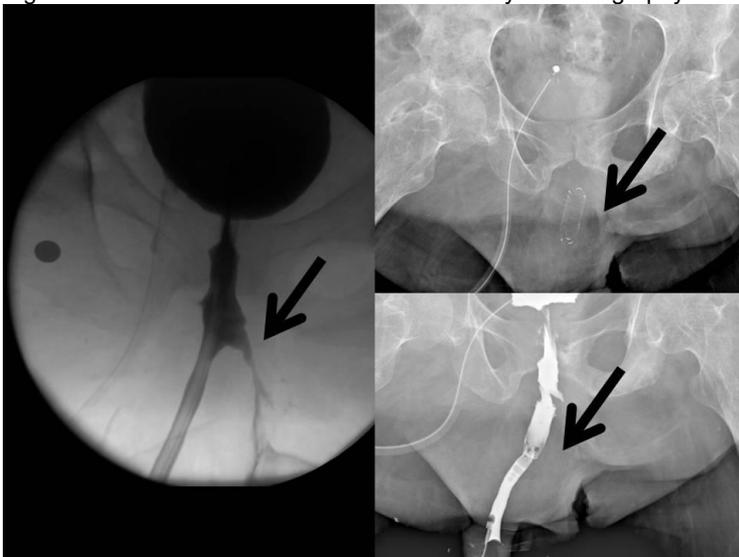


Fig.2 Treatment with Uventa™ urethral stent: cystourethrography before and after treatment



References

1. X. Biardeau et al, Intermittent catheterization in neurologic patients: Update on genitourinary tract infection and urethral trauma *Annals of Physical and Rehabilitation Medicine* 59 (2016) 125–129
2. Chung KJ et al. Efficacy and safety of a novel, double-layered, coated, self-expandable metallic mesh stent (Uventa™) in malignant ureteral obstructions. *J Endourol.* 2013 Jul;27(7):930-5.

Disclosures

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