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STACCATO UROFLOW CAUSED BY A LARGE SLIDING INTRAVESICAL URETEROCELE IN A YOUNG MALE MIMICKING NEUROLOGICAL DISORDER – A VERY RARE CASE

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ABSTRACT
Ureterocele is a common urological anomaly and has a broad spectrum of clinical presentation. Secondary bladder outlet obstruction is well documented. We describe the rare case of a sliding intravesical ureterocele in a young male with staccato uroflow at the end of miction and as first and single symptom mimicking neurologic dysfunction.

INTRODUCTION

The term ureterocele was first used by Leshnew in 1912 and defines a cystic dilatation of the terminal ureter [1]. According to this classification, ureteroceles contained entirely within the bladder are named orthotopic or intravesical, while an ureterocele that has a portion permanently located outside of the bladder is called ectopic [1]. Ureteroceles have a broad spectrum of clinical presentation. Intravesical ureterocele can be obstructive (stenotic) and reflexive [2]. Bladder outlet obstruction secondary to ureterocele is well documented. The goal of ureterocele management is to prevent the renal damage associated with the obstruction or vesicoureteral reflux and urinary tract infection, maintenance of normal voiding function or urinary continence, and minimize surgical complications with the fewest number of procedures possible [3].

We describe the rare case of a sliding intravesical ureterocele in a young male with staccato uroflow at the end of miction and as first and single symptom mimicking neurologic dysfunction.

Case presentation

A 29-year old male patient referred to our urological outpatient clinic from department of endocrinology after having diagnosis of diabetes mellitus type 1 with consecutive insulin medication. The patient presented a voiding dysfunction over the last 12 years with a staccato urinary stream and a feeling of aggravated bladder emptying. At this, the focus of suspected diagnosis was directed to a neurological voiding disorder. Upon more precise request, the patient always had recognized an initial normal urinary stream but the staccato urinary stream just to the end of the miction. No history of urinary tract infections, status after tympanoplastic of both sides due to chronic otitis media, no kind of other dysfunctions or diseases, smoker. Physical examination showed a good condition, ASA 2, BMI 22 kg/m^2, general, rectal and neurological examination with normal findings. Laboratory analysis with normal values (despite glucosuria) such as creatinine 78 umol/L; eGFR CKD-EPI 115 ml/min; urea 3.2 mmol/L; C-reactive protein 4.0 mg/L; leucocytes

10.8gpt/L; haemoglobin 9.2 mmol/L; thrombocytes 305 gpt/L, no leukocyturia or erythrocyturia, no bacteriuria. Sonography showed normal kidney without urinary retention/ hydronephrosis, a 5 mm large dilatation of the terminal right ureter, and a intravesical cystic 3 cm large tumor at the right side of the bladder respectively at the estimated position of the right ureter ostium (fig.1).

Duplex sonography presented intermittend jet stream (urine jet) out of the cystic tumor (fig.1). The bladder showed a normal configuration with no trabeculation but a slightly hypervolume of 620 ml. The transrectal ultrasound of the prostate had normal findings. Uroflowmetry showed Stakkatoflow from the mid to the end of miction (fig.2).

All findings led to the suspected diagnosis of a symptomatic ureterocele with a flapping bladder neck outlet obstruction at the end of the miction (when the bladder volume abates) that results in a staccato urinary stream. An accompanying vesicorenal reflux or hydronephrosis could be excluded. Consecutively, the patient was prepared for transurethral intervention in general anaesthesia. The cystoscopy showed the large ureterocele on the right side (fig.3a-c).

In order to prevent a persisting bladder outlet obstruction by the collapsed ureterocele wall after transurethral incision (fig.3d), the transurethral resection of the ureterocele wall was performed (fig.3e).

Follow-up uroflowmetry two weeks after transurethral ureterocele resection revealed a normal urine stream and uroflow with no staccato miction anymore (fig.4).

DISCUSSION

Ureterocele is a common urological anomaly and has a broad spectrum of clinical presentation. Secondary bladder outlet obstruction with acute urinary retention of the bladder is well documented. Prolapsing ureteroceles are the most common cause of acute urethral obstruction in girls, but this event has also been reported in males, even if much less frequently [1,4]. Various alterations in uroflow pattern are thought to indicate particular types of lower urinary tract conditions, specifically staccato uroflow indicating dysfunctional voiding and intermittent /fractionated uroflow indicating detrusor underactivity [5].

A sliding intravesical ureterocele can cause staccato uroflow mimicking neurologic dysfunction. To the best of our knowledge, we describe the first case of a sliding intravesical ureterocele in a young male with staccato uroflow at the end of miction and as first and single symptom mimicking neurologic dysfunction. Recent years have seen a significant increase in the use of transurethral incision for the treatment of ureteroceles [6]. About 70–80% of intravesical ureteroceles can successfully be treated with TUI alone [2]. In this case, transurethral resection of the ureterocele was the treatment of the first choice to prevent persisting bladder outlet obstruction by the collapsed ureterocele wall after transurethral incision. Follow-up uroflowmetry after transurethral ureterocele resection revealed a normal urine stream and uroflow with no staccato miction anymore. In the short follow-up there was no urinary reflux. A resulting secondary vesicouretal reflux with possible nephropathy has to be excluded and managed [1-3,6].

Figure 1. B-mode sonography (left) of the urine filled bladder with ureterocele (closed arrows) and duplex sonography (right, monochrome scan) with urine jet (open arrow) out of the ureterocele.

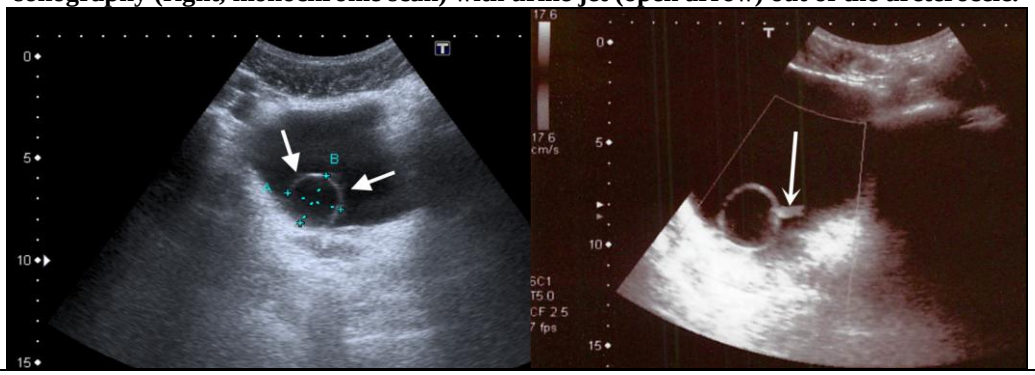


Figure 2. Initial uroflowmetry (pre treatment) shows a stakkato uroflow of a middle voiding; Ultracompact 9500 (Wiest Internat. GmbH), weighing scale sensor.

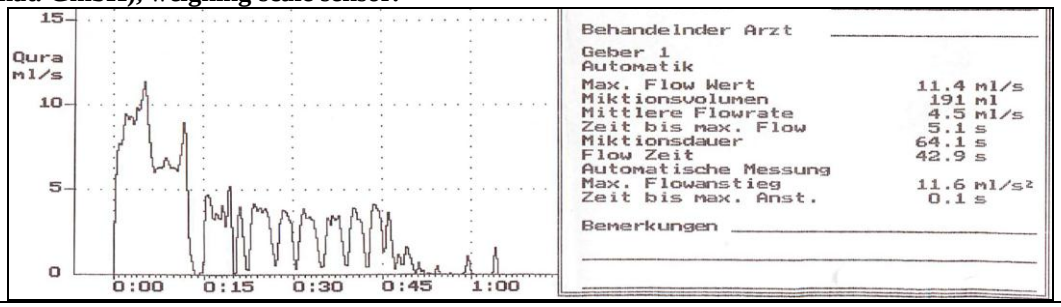


Figure 3. Ureterocele of the right side. Cystoscopy with the view from the bladder neck with parts of the prostate lobes (3a). Lateral side of the ureterocele (3b). Medial side of the ureterocele (3c). Collapsed ureterocele after transurethral incision (3d). Ureterocele after complete transurethral resection of the ureterocele (3e).

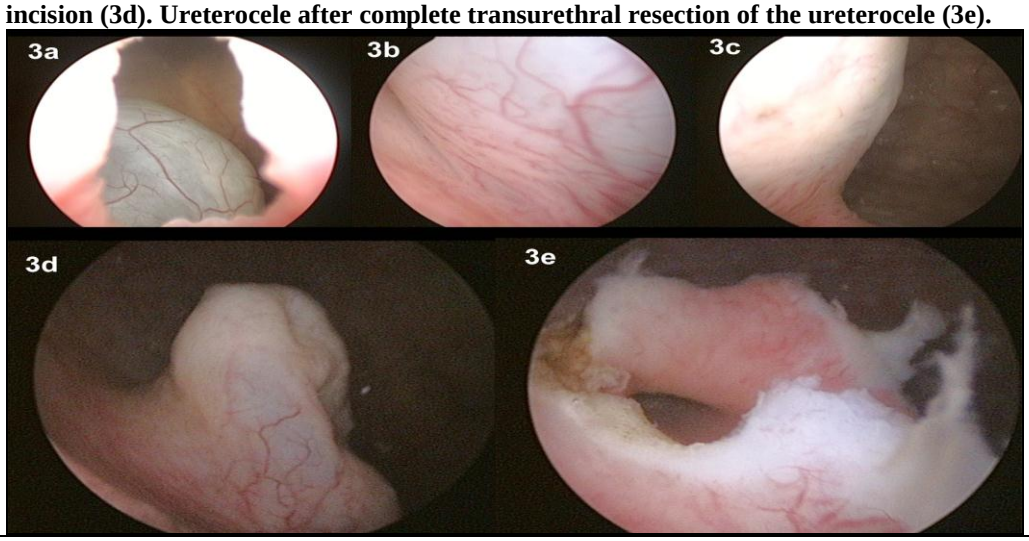
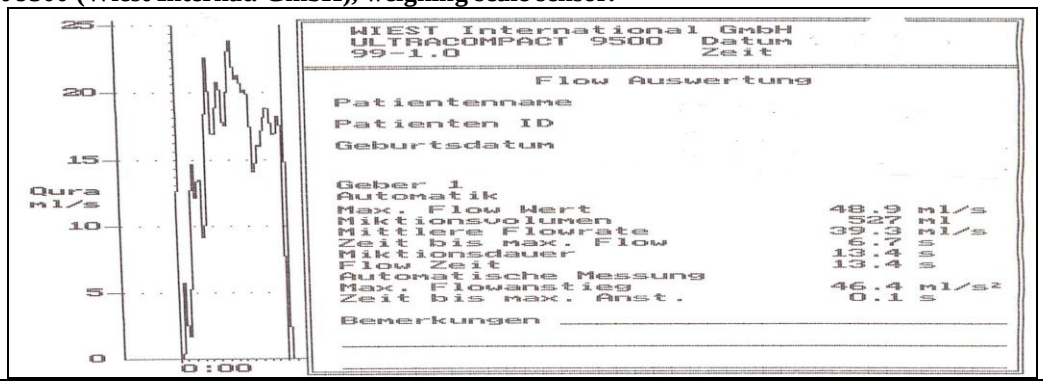


Figure 4. Follow-up uroflowmetry (post treatment) shows a normal miction with no staccato uroflow anymore; Ultracompact 9500 (Wiest Internat. GmbH), weighing scale sensor.



CONCLUSION

A sliding intravesical ureterocele can cause staccato uroflow mimicking neurologic dysfunction. Transurethral resection of the ureterocele is the treatment of the first choice to prevent persisting bladder outlet obstruction by the collapsed ureterocele wall after transurethral incision.

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CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

STATEMENT OF HUMAN AND ANIMAL RIGHTS

All procedures performed in human participants were in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. This article does not contain any studies with animals performed by any of the authors.

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