



Pediatrics

## Urinary incontinence in a female adolescent due to an ectopic ureter opening into the vestibulum: A case report

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## ABSTRACT

Ectopic ureter opening into the vestibulum (EUV) is a rare congenital cause of urinary incontinence in female adolescents. Diagnosis be challenging. We report an EUV in a 16- year-old female. This is the first case of EUV reported in DR Congo. The evaluation and diagnosis are discussed.

## Introduction

Urinary incontinence (UI) in female adolescents is common, due to acquired causes, whose diagnosis is less complicated than that of congenital causes. Ectopic ureter opening into the vestibulum (EUV) is a rare cause of UI, that occurs in pyeloureteral duplication.<sup>1</sup> The diagnosis of an EUV can be challenging without adequate imaging. We report a case of EUV recently observed in a adolescent.

## Case presentation

JD, 16, a female, nulligravid, presented in December 2016 during a urogenital fistula repair campaign. She had permanent involuntary urinary loss through the vagina since childhood, associated with normal micturition. She had no medical or surgical history. The initial clinical examination revealed a normal vulva with an orthotopic urethral meatus and an annular hymen. The methylene blue test showed no dye leakage through the vagina using a speculum. Renal function was normal with urea and cratinine levels of 26 mg/dl, and 5 mg/l, respectively. Urine cytobacteriological examination (UCBE) did not demonstrate a urinary infection. Intravenous urography (IVU) showed a left pyelic duplication. The upper pyelon was slightly dilated, but the corresponding ureter was not visualised (Fig. 1). Cystoscopy indicated a healthy bladder mucosa and two normal ureteral meatus. A

computerised tomography (CT) urogram was normal.

The patient was re-examined clinically. She had a small orifice, in the right lateral position with respect to the urethral meatus, with a continually flowing pale liquid. A 5 Fr ureteral catheter was passed approximately 15 cm (Fig. 2). After injection of contrast product, an image could not be obtained due to lack of functional equipment. The catheterisation, cystoscopy and IVU suggested diagnosis of EUV. Renal scintigraphy could not be performed due to lack of equipment. On February 23, we carried out an extraperitoneal pararectal approach, a reimplantation of the ectopic ureter according to Glenn Anderson's technique, leaving in place a 5 Fr double J catheter. During this procedure, the ectopic ureter was detected using a 5 Fr ureteral catheter inserted from the vestibular meatus. The patient's incontinence ceased. By the tenth postoperative day, she had low back pain and fever. Her renal function remained normal. CRP was 48 mg/l. UCBE revealed an *E. coli* urine infection. IVU demonstrated that the left superior pyelon, identified by the upper end of the double J catheter, was silent. The left inferior pyelon and right kidney were normal. The patient received appropriate antibiotic therapy and then underwent a left polar nephroureterectomy on day 21. The left superior pyelon was dilated and filled with purulent urine. Its parenchyma was thin. The patients' s postoperative course was uneventful.

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## Discussion

UI associated with normal micturition suggests unilateral uretero-vaginal fistula, which in sub-Saharan Africa can be due to obstetric and surgical complications. In the nulliparous adolescent, this clinical picture suggests a priori congenital cause, EUV, or ureteral ectopia with vaginal meatus. The literature mentions very few EUV cases diagnosed in sub-Saharan Africa. Abdul MA et al.<sup>1</sup> reported a case in Nigeria in a 15-year-old female patient. To the best of our knowledge, the present patient is the first reported case in DR Congo.

The diagnosis of EUV is largely based on the history of the disease and vulvar examination.<sup>2,3</sup> We did not notice the ectopic meatus during our first examination.

Complementary investigations include cystourethroscopy, vaginoscopy, ureteral catheterisation, and imaging.<sup>1,4</sup> IVU may assist the diagnosis under the good kidney function. In cases with poor kidney function, delayed images may help. In our case, the IVU data were incomplete, as we did not have delayed images. The images that we had could correspond to bifidity. Cystoscopy showing two ureteral meatus excluded duplicity with the bladder opening of both ipsilateral ureters. Ureteral catheterisation was very helpful in asserting duplicity. In the present context where the entire diagnostic arsenal was unavailable, juxtaposition of different complementary data was decisive.

Therapeutically, different techniques are recommended depending on whether the renal function of the superior pyelon is good or



**Fig. 2.** View of the vestibulum. The orifice is in the right lateral position with respect to the urethral meatus. A 5 Fr ureteral catheter has been passed.

impaired.<sup>1,5</sup> We performed ureteral reimplantation due to relatively good renal function on IVU and incontinence. Ureteral reimplantation may be performed as a conservative primary approach because it is a



**Fig. 1.** Intravenous urography: the upper pyelon is slightly dilated, but the corresponding ureter is not visualised.

simple procedure. The occurrence of pyonephrosis justified the superior pyelic nephroureterectomy.

### Conclusion

EUV is recognised by a history of the disease, clinical examination, and, in cases limited to cystoscopy, the catheterisation of the ectopic meatus an.

### Declaration of competing interest

None declared.

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