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Urethral duplication in a seven year old girl: About a rare case report

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Abstract
Urethra duplication is a rare anomaly, most common in male. The clinical presentation varies because of numerous anatomic variations. These falls into four main groups: epispadiac, hypospadiac, fusiform, and Y-type.
We report on one case of fusiform incomplete duplication of the urethra. Surgical repair consisted of endoscopic resection of the septum between the two urethras. Follow-up was good without complications.

Keywords: duplication, urethra, Effman, Lebowitz, child

Introduction
The urethral duplication or supernumerary urethra or called accessory urethra is an exceptional malformative uropathy of interest mainly to the boy [1]. It is defined by the juxtaposition of 2 or more channels with smooth muscular structure with a mucosal coating of excreto-urinary type [2]. It can be complete or incomplete [3]. It occurs preferentially in the sagittal plane but also in the frontal plane [2]. Numerous anatomical varieties have been described with a second urethra opening in standard position or not. The therapeutic attitude can be complicated, depending on the anatomical type [1]. Radiological investigations are of great interest in all cases [4].

Materiels and Methods
Our work consists of a case report concerning an seven year old child, followed in the Pediatric Urology Department "C" at Children's Hospital of Rabat.
The purpose of this study is to analyze the characteristics of such a location on the clinical, radiological and endoscopic plan, to discuss the choice of the surgical procedure and to study the best time of surgery.

Case
7-year-old girl with no particular pathological antecedents, no notion of consanguinity, without history of injuries admitted for episodes of urinary tract infection despite well-followed treatment. The clinical examination doesn't find anything. An ultrasound realized was normal. After treating the infection of the urinary tract, we decided to perform a cystoscopy for diagnostic purposes.

Results
Cystoscopy exploration revealed a duplication of the urethra (Figure 1).
After penetrating each of the 2 urethra (Figure 2) to ensure their continuity, we see that they converge every 2 just before reaching the Veru Mentanum. So, we can say that our case is an Urethra Duplication type IIB according to Effman and Lebowitz classification [5].
Our course of action was to put a guide in one of the 2 urethra (Figure 3), then cut the septum separating them (Figure 4).
After finishing, we obtain a single duct of good caliber, and we see a good urine jet just after removing the cystoscope (Figure 5).
Postoperative follow-ups are simple.
The evolution in the short and long term is good.

Discussion
Duplication of the urethra is a rare malformation [6]. It is seen mostly in the boy and takes several anatomical forms: hypospadias (the two urethrae are situated beneath the cavernous bodies), epispadias (the supernumerary urethra is situated above the cavernous bodies) and posterior Y-forms with Perineal or anal meatus [3, 5, 7].
The age of discovery is precocious, usually, before the age of one year [2].
Urethral duplication is often of fortuitous discovery on examination of the external genitalia of the newborn. It is essentially asymptomatic [8], but if it is symptomatic the signs commonly encountered are the existence of a double urinary jet, repeated urinary infections, dysuria and urinary incontinence [6]. The association with other anomalies of the upper urinary tract is rare.
Genito-urinary malformations (renal dysplasia, vesicoureteral reflux, bladder exfoliation, cryptorchidia), digestive and musculoskeletal disorders have been described [2, 6].
Cystography studies the anomaly. Coupled with endoscopy, cystography makes it possible to appreciate the anatomical aspect better and especially the functional urethra [9], and it evaluates its continence. The management of urethral duplication involves several techniques, ranging from sclerosing injections of the supernumerary canal to surgical excision of the accessory urethra or genito-urinary reconstruction surgery of the hypospadias [7, 10, 11, 12].
The treatment of the supernumerary urethra is not yet well codified, and the therapeutic attitude remains variable from one author to another. Only symptomatic forms are operated [13].
With regard to the treatment of these forms, Atherton [14] and Goldstein [15] advocate sectioning the partition separating the two ducts by endoscopic, as was done in our patient.

Conclusion

Urethral duplication in the boy is a rare anomaly. Its clinical expression depends on its anatomical type. In patients with a dual urinary stream, the evaluation will be complete only if both urethras are identified in their entirety. If the diagnosis is made in asymptomatic context, the surgical indication is made with good results in most cases.

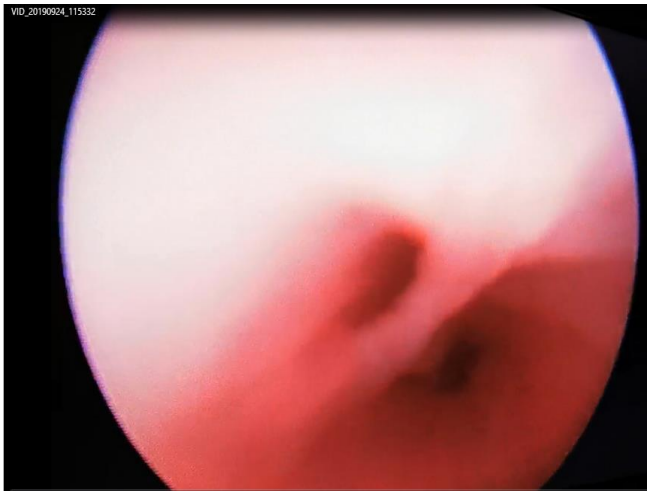

Fig 1: Endoscopic image showing urethra duplication.

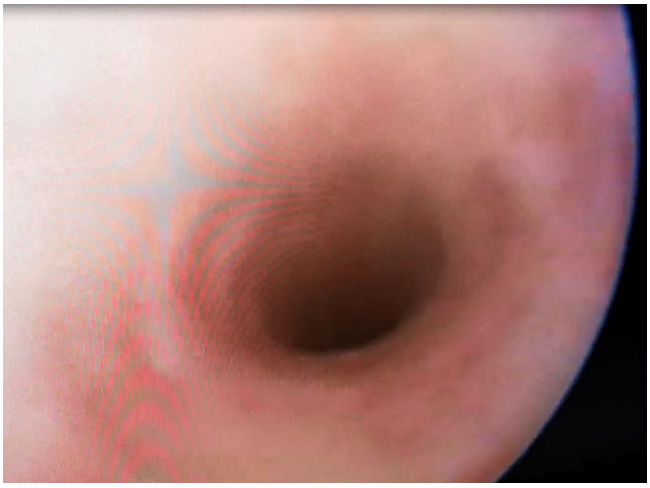

Fig 2: Endoscopic image of the anterior urethra.

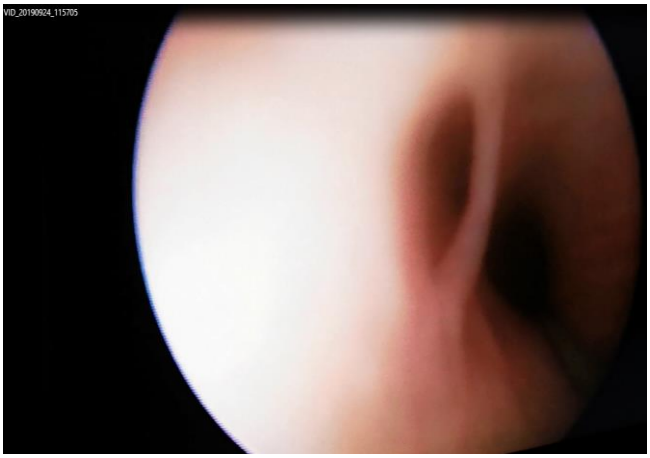

Fig 3: Endoscopic image showing the urethra duplication with a guide in the posterior part.

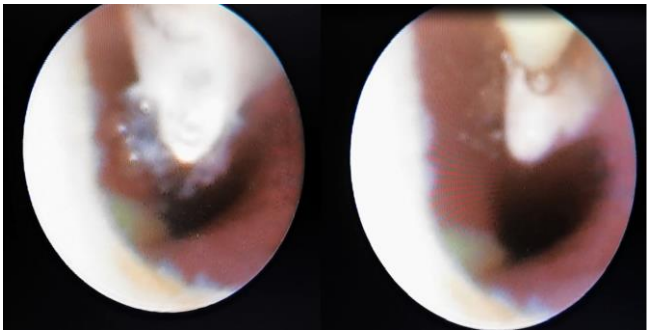

Fig 4: Endoscopic resection of the septum separating the two urethras

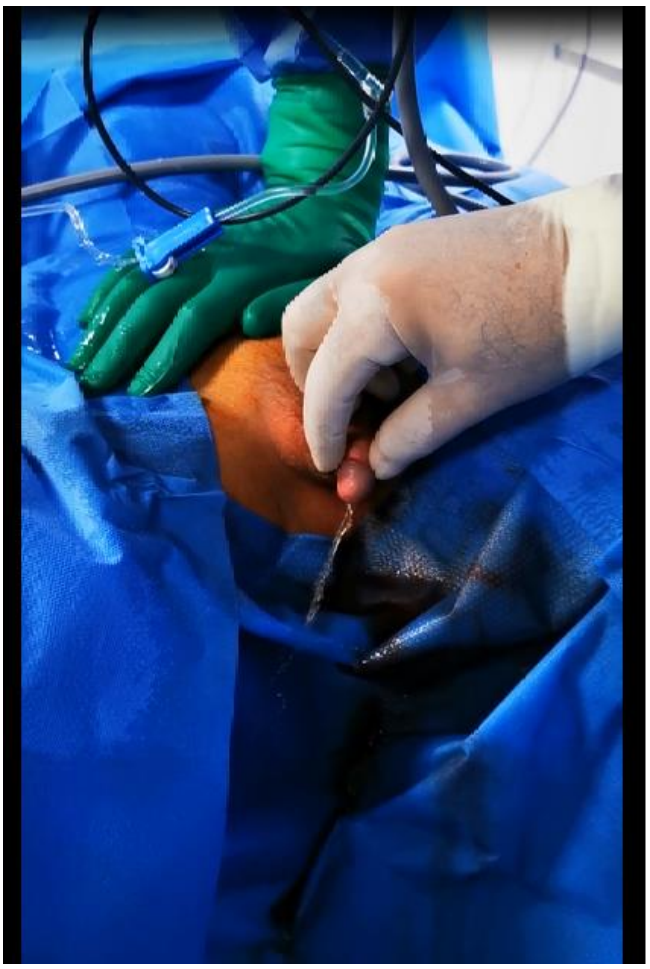

Fig 5: Image showing a good urination after finishing endoscopic surgery

Conflict of Interest

All the authors declare that they do not have any conflict of interest.

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