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Case of Incomplete Ureteral Duplication Complicated with Lithiasis and Right Uretero-Hydronephrosis

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Abstract

Ureteral duplication is congenital malformative uropathy that occurs most often in children. Complete ureteral duplication is defined by a kidney that has two ureters with two orifices that communicate to the bladder through two ureteral meati. It is an anatomical variant that remains rare. Its early discovery is due to a lack of diagnostic means, hence the occurrence of long-term complications. To this end, we observe an increased importance of the morbidity linked to the late diagnosis of this duplicity. We report a case of incomplete ureteral duplication complicated by ureterohydronephrosis on lithiasis wedged in the uretero-vesical junction of one of the ureters in its lower portion which required uretero-lithotomy with bladder reimplantation of the ureters. Our aim was to show the importance of the morbidity associated with late diagnosis of this anomaly and the incidence of infection and complications that this pathology poses as a problem. This was a clinical case of fortuitous discovery managed by a general surgeon in the general surgery department of the hospital "Mère Enfant" Le Luxembourg Bamako Mali. The suites were simple.

Keywords

Ureteral Duplication, Congenital Malformation, Adult

1. Introduction

Ureteral duplication is defined by a kidney that has two excretory ducts with two

ureteral orifices or meatuses [1]. Ureteral pyeloduplication is a malformative uropathy of the urinary tract. It becomes pathological in the event of abnormality of the junction therefore of drainage of one or both ureters. The frequency of this pathology is estimated between 0.6% to 0.8% of the general population [2].

Classically, ureteral duplicities arise from an anomaly in the development of the ureteral bud: incomplete with a simple ureteral bud which divides before its fusion with the mesenchyme to form a bifid or complete ureter; to two ureteral buds which develop until they reach the renal mesenchyme [3]. Its early diagnosis is rare in our context because of fortuitous discovery [1] [3] [4] [5]. This ureteral duplication most often increases the frequency of urinary tract infections and low-noise complications [6] [7] [8] [9]. Our main objective is to prove the importance or the gravity of the morbidity linked to the late discovery of this malformative congenital uropathy. The purpose of this work is to report a case and to review the literature.

We report a clinical case of incomplete ureteral duplication complicated by lithiasis of the ureterovesical junction with moderate right uretero-hydronephrosis.

2. Observation

Mrs. FK, 26 years old, consulted on August 23, 2022 for more marked abdominal pain in the right flank. This is a pain that radiates into the pelvis, intermittent stabbing type accompanied by pollakiuria, burning while urinating; No hematuria or vomiting.

In his history, we noted an appendectomy performed in 2017, the postoperative course of which was simple and no history of schistosomiasis in childhood. She is the mother of two children (G2P2V2A0D0) and the menstrual cycles are regular with more or less frequent occurrences of leucorrhoea and urinary tract infections.

The clinical examination does not find organomegaly but abdominal pain localized in the right flank and in the pelvis which becomes diffuse during attacks with unquantified fever. She has a blood pressure of 120/80 mm Hg and a heart rate of 80 beats per minute. Elsewhere the rest of the clinical examination is unremarkable.

The abdomino-pelvic ultrasound concluded that there was lithiasis of the right uretero-vesical junction associated with moderate ureterohydronephrosis upstream and fluid effusion in the Douglas fir (adnexitis). Uro computed tomography shows a 6.3 mm lithiasis enclosed at the level of the right uretero-vesical junction responsible for moderate ipsilateral uretero-hydronephrosis associated with two bilateral renal micro-lithiasis.

The biology is unremarkable, a thick drop positive at 50 trophozoites/µl of blood.

Midline laparotomy under the umbilical under locoregional anesthesia with a retro-peritoneal approach to the right ureter found two dilated ureters (**Figure 1** and **Figure 2**) with a lithiasis (**Figure 3**) wedged in the right uretero-vesical junction.

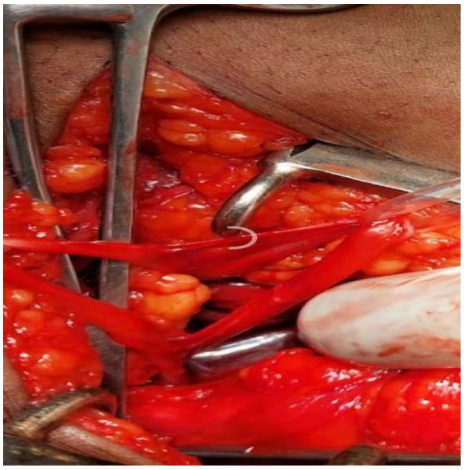

Figure 1. Two dilated ureters.

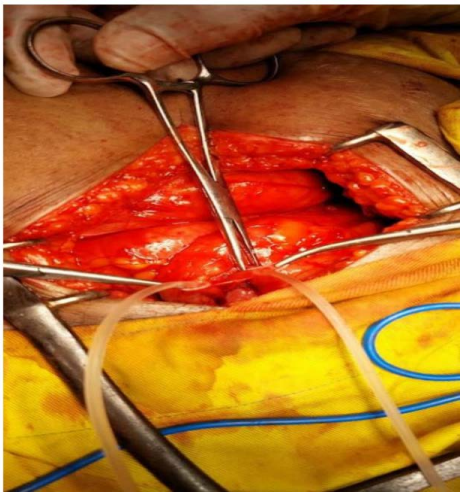

Figure 2. Midline laparotomy under the umbilical.

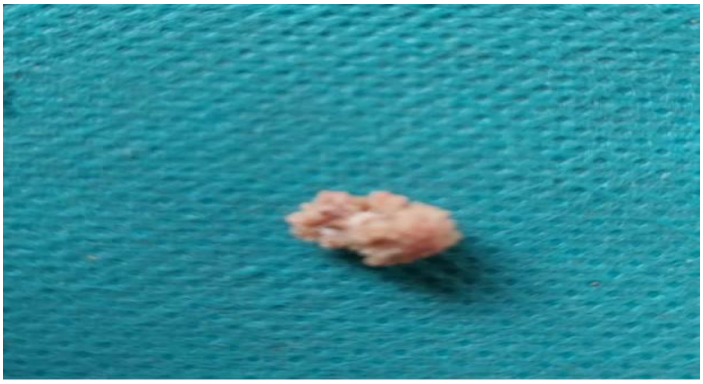

Figure 3. Lithiasis.

We performed a right ureterolithotomy and a ureterovesical reimplantation of the two ureters with two ureteral drains and drainage of the right lateral retzius. Ureteral drains were removed on D3 and discharged on D4. The suites were simple. The ablation of the urinary catheter was performed on D10.

3. Discussion

The management was motivated by a complication of this ureteral duplication unknown until the day of the scheduled surgery despite the uro CT scan, whereas in the literature the management is done from the neonatal period or in childhood [3] [4] [5] [6] [10].

According to the classification of SMITH in 1946, our case corresponds to type III (Three renal units), one of them drained by a simple ureter and the other two units by two ureters joining into one with a ureteral meatus as described by some authors [3]. Our two ureters united 1 to 2 centimeters to lead through a meatus.

The association of calculation is very frequent in a context of late discovery of the duplication according to the literature [2] [3] [6]. Repetitive urinary tract infections, pain like renal colic would be the motivating causes for the discovery of this ureteral duplication in the literature [2] [3] [5] [8] [9] [11].

The diagnosis of duplicity is found intraoperatively, therefore a fortuitous discovery, as with many authors [2] [3] [6] [12]. Our course of action consisted of uretero-vesical reimplantation of the two ureters after uretero-lithotomy, as in many authors where conservative treatment was the most frequent option [3] [5] [6]. The suites were simple as described in the literature [3] [6] [7] [9].

4. Conclusions

Ureteral duplications are sometimes incidentally discovered during exploration radiological or computed tomography therefore without apparent clinical urological signs. Peroperative discovery is frequent in the face of complications in our context.

Pathogenic ureteral duplications require medical and surgical management, most often conservative as long as we can, accompanied by long-term monitoring. Early management of congenital anomalies of the ureters helps preserve renal capital. Elsewhere, late discovery of the pathogenic form causes destruction of the renal parenchyma.

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Conflicts of Interest

There are no conflicts of interest.

References

[1] Peycelon, M. and Audry, G. (2009) Place de la chirurgie dans la prise en charge du reflux vésico-urétérale de l'enfant. *ScienceDirect*, **16**, 1598-1602.

[2] Chalard, F. and Maheux, A. (2022) Imaging of Urinary Tract Malformations Department of Radiology-Hospital Trousseau-Paris. SFIPP, 19 p.

[3] Diarra, M.Z., Coulibaly, M.T., Diarra, A., Coulibaly, L., Badiaga, C., Ouattara, A., Barry, A., Kante, M., Dama, M., Coulibaly, M., Dao, S., Ouattara, Z., Diarra Togo, A.P., Berthe, H.J.G. and Ouattara, A.Z. (2022) Incomplete Right Ureteral Duplication and Calculus in an Adult at the Chu Gabrieltoure: Incidental Intraoperative Discovery. *Heath Science*, **23**, 90-94.

[4] Saussine, C., Lechevallier, E. and Traxer, O. (2008) Calculs et anomalies urétérales Service d'urologie. 1166-7087.

[5] Michel, D., Fabrice, C.S., Bernard, L. and Paul, J. (2003) Lithiasis and Abnormalities of the Urinary Tract: Is the Composition of Calculations Independent of the Anatomical Anomaly? *Progrès en Urologie*, **13**.

[6] Kone Sory, I., Berthe, H.J.C., Beye, S.A., Samake, B., Keita, M., Coulibaly, M.T., Ouattara, Z., Diakite, M.L. and Tembely, A. (2021) Complete Lithiasic Ureteral Duplicity Complicated by Pyonephrosis. *Heath Science*, **22**, 123-124.

[7] Fabrice, M., Vincent, R., Charles, R., Patrice, H.M., Vincent, D. and Laurent, B.G. (1998) Inverted Y Ureteral Duplication. About a Particular Case. *Advances in Urology*, **8**, 262-265.

[8] Tembely, A., Kassogue, A., Berthe Honoré, J.G. and Ouattara, Z. Aspects cliniques et thérapeutiques des anomalies de la jonction pyélo-urétérale au CHU du Point G. Recearch Gate.

[9] Tengue, K., Kpatcha, T.M., Sewa, E., Sonhaye, L., Coulibaly, M., Botcho, G., Leloua, E., Adabra, K., Anoukoum, T. and Dosseh, E. (2016) Malformations of the Upper Urinary Tract in Adults in Togo: Diagnosis and Treatment. *Uro'Andro*, **1**, 283-288.

[10] Upadhyay, J., Boldduc, S., Bragal, L., Farhat, W., Baglid, J., Lorie, G.A., *et al.* (2002) Le diagnostic anténatal diminue le taux de morbidité de l'urétérocèle. *The Journal of Urology*, **167**, 2560-2565.

[11] Jain, S. and Chen, F. (2018) Developmental Pathology of Congenital Kidney and Urinary Tract Anomalies. *Clinical Kidney Journal*, **12**, 382-399.

[12] Poli-Merol, M.L., Bryckaert, P.E., Belouadah, M. and Daoud, S. (2002) Ureteral Multiplicity: About 3 Cases. *Progrès en Urologie*, **12**, 288-293.