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Case Report

Ureteral Pyelo Duplication associated with Controlateral UretralPyelo Bifidity about 1 Case

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Summary

Ureteral malformations are rare, often asymptomatic and without consequences; they can have an impact on kidney function.We report a case of several associated ureteral malformations in a 34-year-old patient. Following chronic low back pain, several imaging examinations had objectified a pyelo-ureteral duplication at the right with an ectopic implantation of a ureter associated with ureterocele on the same side and a controlateral bifidity.The treatment was endoscopic and conservative through an endoscopic resection of the ureterocele with the installation of a double Ureteral probe J. The control Uroscanner after 6 months was satisfactory.Often difficult diagnosis, management ranges from abstention to polar nephrourerectomy. Conservative treatment in our case has led to good results.

Keywords: Associated; Malformations; Duplication; Ectopic Implantation;Ureterocele; Bifidity; Conservative; Good Results.

Introduction

Ureteral duplication is defined as a duplication of the excretor of a normal kidney unit with total independence of the two ureters to the bladder, each with a distinct opening. Bifidity is referred to if the two homolateral ureters meet in a common ureter plugging into the bladder through an orifice [1]. With a non-unequivocal care, each case has its own peculiarities. We report a case of right ureteral duplication with ectopic implantation of the lower ureter associated with a controlateralpyelo-ureteral bifidity diagnosed in a 34 years old patient.

Observation

Mr. C.A., 34 years old, with no significant pathological history, had isolated right low back pain that had been evolving for 6 months. The clinical examination was without abnormalities. An abdominal ultrasound was in favor of a right renal cyst, a Uro-scanner had objectified a parapyelickystic formation extended to the level of the right iliac pit (Figure1: A, B, C, D). Cytobacteriological examination of urine was sterile, and kidney function was normal.

Uretrocystoscopy had objectified a median elevation of the posterior wall of the prostatic urethra (probably corresponding to anuroterocele) with the presence of two meatus with normal situation and aspect.
A percutaneous puncture of the kystic mass had been performed in the operating room. The antegrade clouding had shown a megaureter with low implantation of the ureter and a stop of the contrast product in the level of the prostate urethra (Figure2). An intravenous urography IVU supplemented by a uroscanner was in favor of right ureteral duplication with ectopic implantation of the lower ureter (corresponding to theupper pyelon) associated with left below-ureteral bifidity (Figure3).Retrograde and urination uretrocystography had not objectified associated vesico-ureteral reflux.Renal scintigraphy with DMSAhad objectified an area of right upper polar rounded hypofixation that remains non-functional. Kidney function was 46% of the right kidney and 54% of the left kidney.

The patient underwent resection of the ureterocele in the operating room with a double J ureteral catheter, removed one month after

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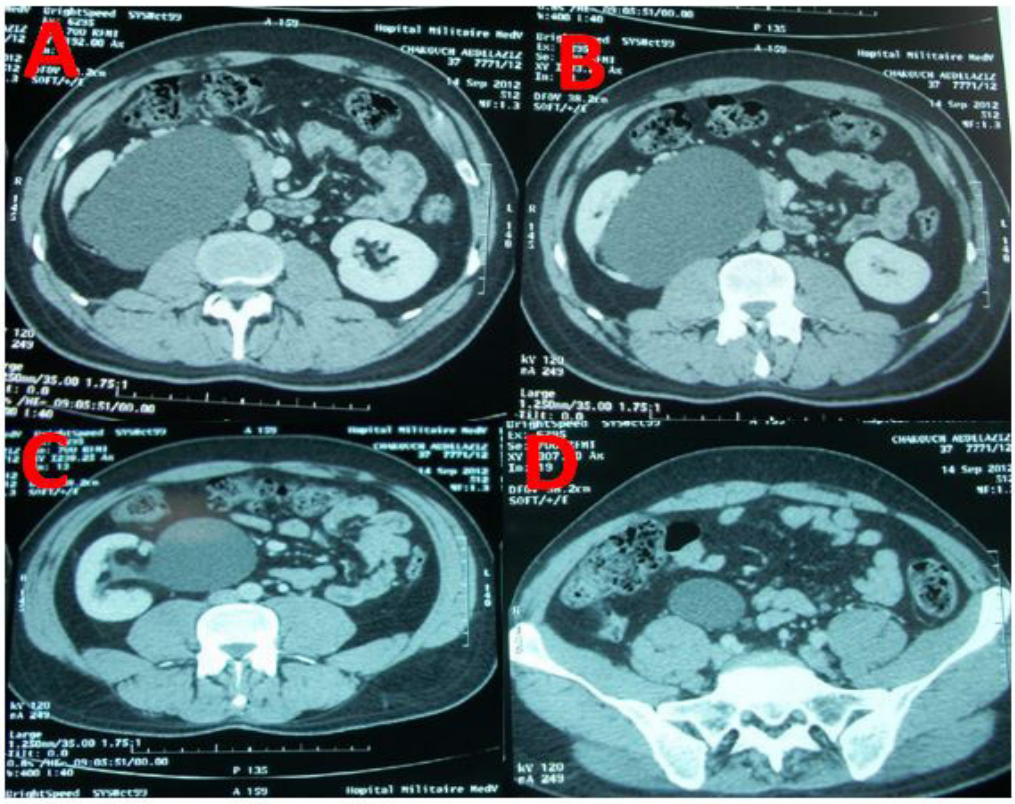

Figure1(A,B,C,D) . CT showing the kystic aspect of dilation at different levels to the iliac fossa.

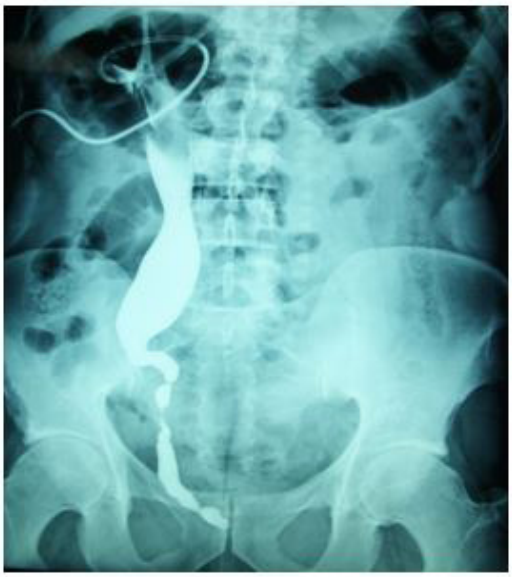

Figure 2. Descending pyelography showing pyelo-ureteral dilatation with ectopic implantation and small terminal ureterocele

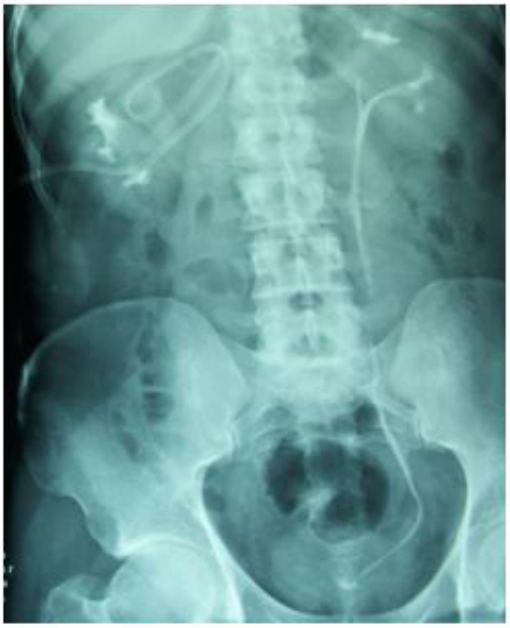

Figure 3. IVU showing nephrostomy tube in upper pyelon, normal opacification of lower pyelocalicin and left bifurcation.

surgery.A CT scan performed after 6 months showed a right kidney with morphology and normal function (Figure 4). Currently the patient is asymptomatic.

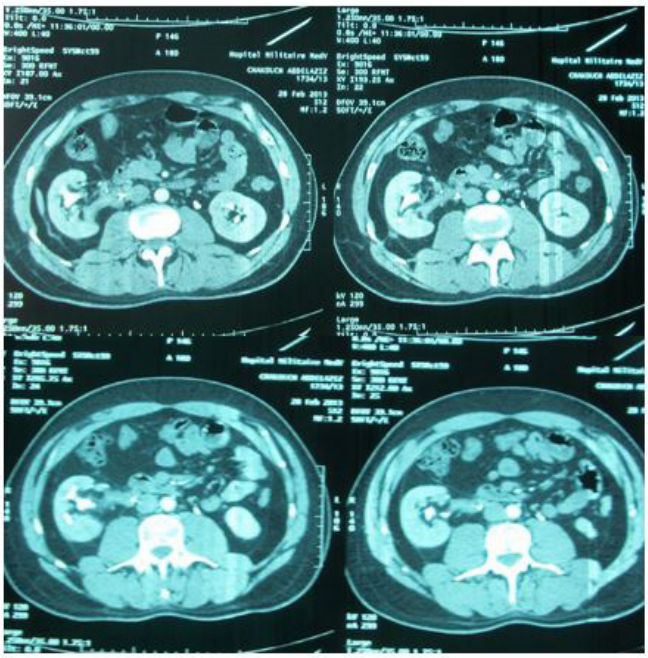

Figure 4. Control CT showing the normal appearance at different stages of the remaining renal pole.

Discussion

Congenital malformations of urinary excretory pathways are quite rare. Pyelo-ureteral duplication is present in only 0.6% in the general population [2]. Other authors mentioned an incidence of a little less than 1% with an attack of two girls for a boy [1]. Embryology offers us a clear explanation, indeed in case of duplication, it would be the birth of an accessory bud on the Wolff canal at a variable distance from the main bud, but usually upstream;on the other hand, in bifidity, a single ureteral bud is born in the normal position of the Wolff's duct and divides more or less early into an accessory bud and a main bud [1, 3, 4, 5].

There is no specific symptomatology. The discovery can be fortuitous during a radiological assessment or during a report following a complication such as a urinary infection, lower back pain or urinary leakage [6]. In our case the diagnosis was made in adulthood due to chronic low back pain.

A radiological assessment establishes the diagnosis, evaluates the repercussion on the renal parenchyma and looks for other associated malformations.An antenatal ultrasound may reveal cavity dilatation, renal sinus splitting, altered parenchyma, or larger kidney, but this is never diagnosed with duplicity or bifidity with certainty.In the postnatal period, the ultrasound shows the dilation of the excretory ways; Theintravenous urography is the basic examination in addition to the ultrasound to make the diagnosis and gives an overview of the renal excretory pathway [1]. Urography with reconstructed images seems to provide more information about IVU by studying renal parenchyma more.

TheRetrograde and micturateurethro cystography searches for an associated vesico urethral reflux. Renal scintigraphy with DMSA evaluates the function of each renal part corresponding to each pyelon and thus contributes to a therapeutic decision-making. Urethrocystoscopy studies the Trigon, evaluate the openings of the different ureters and looks for other associated anomalies.

An association of malformations is often described: vesico-ureteral reflux in the inferior pyelon; The ureter of the superior pyelon is subject to 2 different pathologies: ureterocele and ectopic stork [7]; but also renal malformations or contralateral excretory system can be observed.

In our case the first radiological assessment carried out had made a diagnosis of renal cystic. A descending pyelography led to the suspicion of the diagnosis, allowing to complete the assessment by an IVU, a renal scintigraphy with DMSA, a urethrocystoscopy.Moreover, our case seems to associate all the anomalies described in the literature; in fact, the patient had controlateralpyelo-ureteral bifurcation, ectopic involvement of the ureter corresponding to the superior pyelon, and a ureterocele at the level of this ectopic approach at the origin of the projection on the wall of the prostatic urethra.

Despite progress in care, it is far from unambiguous. The treatment depends on the prognosis of the malformation, the symptomatology, the various associated malformations and possible complications of the malformation. When the malformation is not pathological, abstention is appropriate.

The indications for surgical treatment are not unanimous in the literature. Depending on the quality of the parenchyma. It may be conservative or may require a simple resection. As for the excretory way, its state will justify its sacrifice or its preservation by then using all the processes of anastomosis and reimplantation or an endoscopic incision of a ureterocele[8,9].

Our patient underwent an endoscopic resection of the ureterocele with the placement of a double ureteral catheter J. The control CT was satisfactory and our patient is currently asymptomatic.

Conclusion

The diagnosis of ureteral malformations is not always easy, you have to think about it. In 80% of cases it is a simple morphological anomaly without pathological manifestation; the treatment ranges from therapeutic abstention to polar nephroureterectomy. Conservative treatment in our case had led to good results.

References

1. Faure G (1989)Les duplications de l'uretère.Traitéd'Urologie : 18-158-A-10.

2. Cussenot O, Fournier G(2000)Malformations de l'appareilurinaire et dysplasieskystiques des reins.ProgUrol10: 989-1013.

3. Bourdelat DM, Mazzola C (2010)La sténose du pyélonsupérieur : complication rared'unebifiditéurétérale. Enquêteembryologique. Progrèsenurologie20: 233-238.

4. Kalfa N,Veyrac C, Morin D, Lopez C, Averous M (2009)Malformations congénitales du rein. EMC (Elsevier massonSAS,Paris), Urologie 18-125-A-10.

5. Mangin PH (1988)Les malformations urétérales Rappel embryologique. Traitéd'Urologie18-157-R-10.

6. Mangin PH, Cukier J (1982)Abouchementsectopiquesextravésicaux de l'uretère: problèmesdiagnostiques.Nouv. PresseMéd 11: 1135-1138.

7. Boillot B (2003)Malformations congénitales des voiesurinaires. Corpus Médical– Faculté de Médecine de Grenoble Avril.

8. Barrett DM, Malek RS, Kelalis PP(1975)Problems and solutions in surgical treatment of 100 consecutive ureteral duplications in children. J. Urol114: 126-130.

9. Ploussard G, Nouira F, Auber F, FayadF, Sergent-Alaoui A. AudryG (2007)Néphro-urétérectomiepolaire pour duplication pyélo-urétérale par voielombairepostérieure chez le nourrisson.Prog. Urol 17: 992-995.