Case Reports
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CROSSED RENAL ECTOPIA

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Summary.- OBJECTIVE: To report two cases of right crossed non-fused renal ectopia diagnosed in male patients about 30 years of age who arrived to emergency centres with symptoms of renal colic.

METHODS: We report two cases of male patients who arrived to an emergency centre complaining of colic lumbar pain. Crossed renal ectopia was finally revealed by means of intravenous urogram after several analytical and imaging examinations.

RESULTS/CONCLUSION: Right crossed non-fused renal ectopia is an uncommon congenital anomaly with a higher incidence in males. It is much more common to find a crossed fused renal ectopia of the orthotopic kidney. In contrast, if there is no fusion it may be located on the lower portion of the normal kidney, which is not the case in this instance. This malformation is not usually accompanied by other congenital anomalies. Most of cases are spontaneously solved and they do not require an intercurrent surgical intervention.

Keywords: Ectopia. Renal. Crossed.

INTRODUCTION

A crossed renal ectopia is an embryological alteration in which a kidney is located on the opposite side where the ureter inserts into the bladder. Throughout history, several embryological theories have been introduced to explain its origin until it was determined that this genetic malformation does in fact exist (2).

This congenital anomaly shows a higher incidence in males (1.4:1) and it is more common on the left side (3:1) (1). Those cases that have a solitary renal ectopia tend to present skeletal and genital anomalies. On the other hand, a crossed renal ectopia is not usually accompanied by other congenital changes. Only a 4% has been associated with orthopaedic anomalies and imperforate anus. Although it is not common, apart
from genital and skeletal alterations, they can also be accompanied by structural orthopaedic and heart anomalies (2).

McDonald and McClellan (1957) took on the responsibility of classifying renal ectopia into: crossed fused renal ectopia, crossed non-fused renal ectopia, solitary crossed renal ectopia and bilateral crossed renal ectopia. This is not a common anomaly. In 1654, Pamarolus described the first case and ever since, a thousand have been added. It has been reported, in clinical studies, that crossed renal ectopia has an incidence ratio of 1/15000 patients (3).

CASE REPORT 1

Presented here is the case of a 30 year old male who contacted our emergency centre with clinical symptoms of pain in the right lumbar region and symptoms associated with the parasympathetic nervous system. The patient had no noteworthy urological or systemic history. During the examination, the patient had no fever and his overall condition was good. The hematinometric and biochemical determinations were at normal levels and the analytical test only showed a slight leukocytosis. An imaging examination, which originally consisted in the printing of an abdominal X-ray that did not justify the clinical symptoms, was performed. The ultrasonographic examination did not reveal any pathological findings, subsequently, because of this, the responsibility of the diagnosis was delegated to the urographic examination, which proved the existence of a right crossed renal ectopia with no obstructive affection or presence of lithiasis in the urinary tract.

In this particular case the image reveals that the orthotopic kidney’s ureter terminates on the same side as the bladder and that the ectopic kidney, located on the back side of the normal one, shows a ureter which crossed the midline of the pelvic ring and ends up on the opposite side of the bladder (Figure 1).

The case was successfully resolved by spontaneous way after two days of hospitalization and after administering the necessary analgesic control and diagnosis. The manifestations would be probably caused by small lithiasic fragments that were not detected by IVU and due to their size they were not obstructive and they could be expelled naturally.

CASE REPORT 2

The second case refers to a 28 year old male who contacted our emergency centre with clinical symptoms of pain in the bilateral lumbar region together with nausea and micturition syndrome. It is worth mentioning a past pathological case of phocomelia on the upper left limb.

During the examination, the patient had no fever, his overall condition was normal and he felt pain on the left lumbar side during the percussion examination. The hematinometric and biochemical determinations were at normal levels and the analytical test only revealed a slight leukocytosis. The urine sediment revealed a level of 500 white blood cell and microhematuria.

An imaging examination, which originally consisted in the printing of an abdominal X-ray that did not reveal any pathology, was performed. The ultrasonographic examination revealed the absence of the right kidney. It also showed an increase in size of the left kidney with dilation of the upper pyelocalyceal group, reduced cortical tissue and a remarkable ureteral dilation. Once the ultrasound findings were revealed, an intravenous urography was performed (Figure 2), it proves the existence of a single functional left kidney with a mass effect on the superior part and a ureteral cross towards the right hemi-bladder. In order to complete the study, a CT scan was carried out which revealed the existence of a functional crossed right kidney ectopia which seemed to be fused to the left kidney. This left kidney, located on the upper portion, revealed a significant hydronephrosis.

Figure 1. An IVU image of the excretory phase, where the orthotopic kidney can be seen on the back side. The ureter ends correctly.
and megaureter that ended at the prostatic urethra. A
cystoscopy revealed these findings (Figure 3).

Few days later, a urine culture revealed a positive result
for Streptococcus agalactiae A.

The patient was diagnosed with a urinary tract
infection, a right crossed fused renal ectopia and a left
hydronephrosis with megaureter.

The patient required an antibiotic treatment and ureteral
reimplantation surgery and, subsequently, a placement
of a double-J catheter, which was then extracted after
the four week post-operative period. Both a urine
sediment and culture and an analytical blood test were
also performed, which did not reveal any significant
changes.

The case was successfully resolved. The patient had an
asymptomatic condition and a symmetric nephrogram is
observed on the control IVU. However, the presence of
hydronephrosis still remains.

DISCUSSION

Patients with a crossed renal ectopia present an ectopic
kidney fused to the orthotopic kidney, with a ratio of
10:11. When this does not occur, as in this case, the
normal kidney is located on the dorsolumbar region and
the ectopic kidney is horizontally located underneath the
other kidney while the pelvis is on the front-side.

The majority of patients do not have symptoms;
instead this is generally an accidental finding. If there
happens to be clinical symptoms, such as non-localized
abdominal pain, pyuria and hematuria, these normally
occur during a part of adult life. Some of these symptoms
are associated with the patients’ predisposition, due
to possible anomalies in the renal collecting system,
infections, urolithiasis or hydronephrosis (6).

Intravenous urography has been the most common
imaging examination technique for diagnosing this type
of anomaly; however nowadays, we must consider that
ultrasound and CT scans have allowed more cases to
surface.

This pathology does not require preventive measures
or intercurrent medical or surgical treatments, unless
pathological processes are developed. In such cases,
the measures and attitude performed will be the same
as in patients with orthotopic kidneys. Despite this, it
must be understood that this anomaly may result in
complications based on its own pathology and on the
therapeutic measures taken.

CONCLUSION

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Figure 2. A single kidney on the left side is seen
functioning in the IVU image. It shows a mass effect in
the superior pole and a ureteral cross towards the right
side of the bladder.

Figure 3. In the cystoscopy image, the catheterization of
the ureter of the ectopic kidney in prostatic urethra can
be seen.
are associated with the patients’ predisposition, due to possible anomalies in the renal collecting system, infections, urolithiasis or hydronephrosis (6). For this reason, infections and reflux will be treated equally as in any other patient. However, in the case of lithiasis, if process allows it and there are no contraindications, lithotripsy (ESWL) will be used as a first option, but without disregarding the need of a transperitoneal approach surgery (6).

REFERENCES AND RECOMMENDED READINGS (*of special interest, **of outstanding interest)


INTRACTABLE HEMATURIA SECONDARY TO SYSTEMIC AMYLOIDOSIS WITH BLADDER INVOLVEMENT

Nelson Arturo Diez Calzadilla, Jose Antonio March Villalba, Adriana Canosa Fernandez and Pilar Soriano Sarrio.


Summary.- OBJECTIVE: To present the therapeutic management of intractable hematuria secondary to systemic amyloidosis with bladder involvement.

METHODS: We describe the clinical case, the medical management, the endo-urological technique used, and the results supported by relevant published literature.

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