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Case Report

Congenital Renal Anomalies in Sudanese Twins

Yousif M Elhaj[1]* and Mosab Nouraldein Mohammed Hamad[2]

[1]*Faculty of Medicine, Karary University, Sudan*

[2]*Medical Laboratory Science Department, Faculty of Health Science, Elsheikh Abdallah Elbadri University, Sudan*

***Corresponding Author**: Yousif M Elhaj, Faculty of Medicine, Karary University, Sudan.

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Abstract

Four year old Sudanese boy presented to Omdurman military hospital with high grade fever, vomiting and burning micturition for five days. Systemic review unremarkable. There is PMH of similar condition and hospital admission before 2 months diagnosed as RT kidney stone and accidently found to be had single kidney. PT underwent surgery to remove the stone and DJ stent was inserted and discharge on good condition no blood transfusion. Has family member with similar condition (his twin) but the RT kidney is missed. Investigation showed severe urinary tract infection. When the second twin examined he found to be with right renal agenesis.

Keywords: *Congenital Renal Anomalies; Renal Agenesis; RT Kidney*

Introduction

Hereditary anomalies of the renal and urinary tract anatomy (CAKUT) are widespread in kids and represent about 30% of all prenatally confirmed malformations. It is phenotypically changeable and can influence the kidney(s) alone and/or the lower urinary tract. The spectrum involves more frequent anomalies such as vesicoureteral reflux and, scarcely, more serious malformations such as bilateral renal agenesis. In young kids, hereditary anomalies are the main reason of renal failure and for kidney transplantation or dialysis. It can also cause fatal renal disorders in adulthood and may introduce itself with hypertension and/or proteinuria. Hereditary renal anomalies can be sporadic or familial, syndromic (also influencing non-renal or non-urinary tract tissues), or non-syndromic. Genetic reasons have been recognized for the syndromic forms and have shed some light into the molecular mechanisms of renal development in human beings [1].

Hereditary anomalies of the renal system occur in 1 in 500 births and are a basic reason of morbidity in kids. Notably, it accounts for the most conditions of pediatric end-stage renal sicknesses and predispose the person to hypertension and heart disease during life. Despite of some forms of CAKUT are a part of a syndrome or are accompanied with a positive family history, most cases of renal tract anomalies are sporadic and isolated to the urinary system [2]. CAKUT account for more than 50% of abdominal masses detected in neonates and involve some 0.5% of all pregnancies [3].

Study done by Simone Sanna-Cherchi, measured the risk of progression to end-stage renal disease in 312 patients with CAKUT preselected for the presence of anomalies in kidney number or size. A symbol of dialysis-free living from birth was established as a function of the renal CAKUT classes of solitary kidney; unilateral and bilateral hypodysplasia; renal hypodysplasia associated with posterior urethral valves; and multicystic and horseshoe kidney. Cox regression analysis took into account the concomitant presence of vesicoureteral reflux, year of diagnosis, and time varying values of serum Creatinine, proteinuria, and hypertension. By 30 years of age, 58 patients had started dialysis [4].

Case Report

History of the patient

4-year old boy attended to Omdurman military hospital with high grade fever, vomiting and burning micturition for five days.

Objective of the Study

To evaluate renal system of both twins.

Methodology

Complete blood count, renal function test, urine analysis, urine culture and abdominal ultrasound.

Results and Discussion

Complete blood count

Anemic, with normal blood cell count (WBCS, platelets and erythrocytes).

Renal function test

Normal.

Urine analysis

- Uncountable pus cells.
- RBCs: 0-1.

Urine culture

- Result: *Klebsiella* isolated.
- Sensitivity: To meropenem, gentamycin.
- Resistance: To cephalexin, ceftriaxone, norfloxacin, ceftazidime.

Abdominal ultrasound for the first twin

- Normal RT kidney size (9.6 cm) and shape with echogenic tubular structure mostly DJ stent seen coiled at the middle calyx and the lower end coiled at the UB, mild pelvic calyceal dilatation noted no detectable stones with preserved renal cortex.
- Empty left renal fossa, no detectable stone or masses.
- Normal gall bladder.
- Normal spleen.
- Under filled urinary bladder with basal wall thickening (7 mm) more at the RT lateral wall near the VUJ with debris mostly chronic cystitis.

Abdominal ultrasound for the second twin

- Normal left kidney size (9.1 cm) and shape no stone or obstructive change.
- Empty right renal fossa, no detectable ectopic kidney.
- Normal liver size and shape, no focal lesions.
- Solitary GB stone seen measuring 1.2 cm, no sonographical sign of acute Cholecystitis.
- Normal spleen.
- Normal pancreas.
- Under filled urinary bladder no detectable stone or masses.

Conclusion

This case regarded as very rare case reported about renal anomalies in Sudanese kids as generally and particularly twins.

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