

SUBCAPSULAR NEPHRECTOMY- AN ECTOPIC ABDOMINAL KIDNEY WITH PYONEPHROSIS- A CASE REPORT

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ABSTRACT

An ectopic kidney is one of the congenital condition. It occurs due to failure of kidney to ascend from pelvis . An ectopic kidney can be present in many locations like abdominal, pelvic , iliac and thoracic. We report a case of 29 years female with ectopic abdominal kidney with pyonephrosis who underwent subcapsular nephrectomy.

KEYWORDS :

INTRODUCTION:

An ectopic kidney also known as renal ectopia ,is the congenital condition where kidney unable to reach its normal orthotopic location in the lumbar region . It occurs due to failure of kidney to ascend from pelvis [1]. An ectopic kidney can be present in many locations like abdominal, pelvic , iliac and thoracic[2]. Most of ectopic kidneys are usually asymptomatic. They have increased risk of complications like stone formation, hydronephrosis and pyonephrosis . There are different treatment modalities available for ectopic kidney stone mangement like extracorporeal shock wave lithotripsy (ESWL), percutaneous nephrolithotomy (PCNL), laparoscopic or open peyelolithotomy[3,4,5,6].We report a case of 29 years female with ectopic abdominal kidney with pyonephrosis who underwent subcapsular nephrectomy .

CASE REPORT:

29 years old female patient complain of dull ache pain in lower abdomen for last one month. On examination , abdomen was soft , non tender and have normal bowel sounds. Routine laboratory investigations were within normal limit.

USG Abdomen and pelvis shows: right kidney in normal size and location , left kidney was not visualized in left lumbar region. There was solid looking mixed echogenic mass anterior to and above uterus measuring of size 7 * 6.2 cm. Uterus and bilateral ovaries were normal. CECT Abdomen abd pelvis reveals: right kidney, normal in size , shape , location and shows prompt enhancement. Left kidney was not visualized in left renal fossa, however visualized in lower abdomen in the midline lying obliquely . Left gross hydronephrosis seen with cortical thinning. Left renal pelvis is grossly dilated. Two non-obstructive calculus (1516 HU) noted in lower pole calyces of left kidney with largest one measuring 15.5*8.1*3.9 mm .[Fig. 1].

Tecnitium 99 diethylene triamine pentaacetate (DTPA) scan with F+10 protocol shows good cortical function and unobstructed drainage in right kidney. Left kidney reveals no definite focus of tracer uptake in left renal fossa or elsewhere in the abdomen during dynamic study acquired till 3 hour .

Diagnosis of left non-functioning kidney with gross hydronephrosis kept. Intra-operatively, left kidney was present in lower abdomen , midline, slightly to left lying in transverse position. Left kidney was enlarged and filled with pus. Around 300 ml of pus aspirated. There was dense perinephric adhesions present between left kidney and small bowel loops. Hence left subcapsular nephrectomy done.

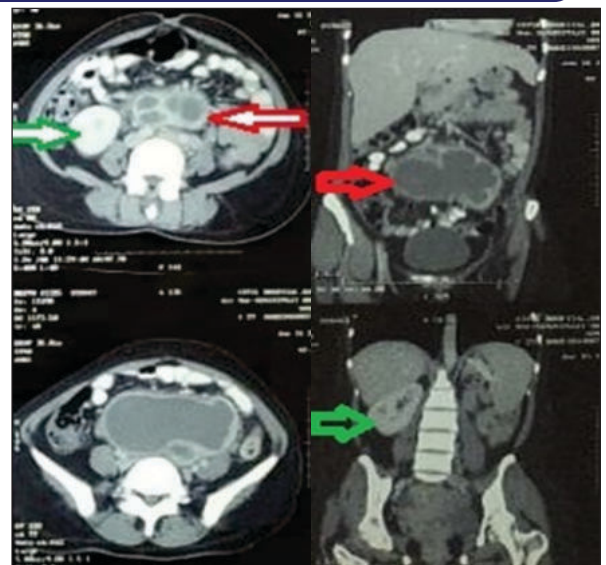


Fig.1- Green arrows show right kidney normal location, Red arrows shows left kidney with pyonephrosis in abdomen.

DISCUSSION:

An ectopic kidney have incidence of 1 in 3000 [7] .There is equal sexual distribution and left ectopic kidney is more common than right one. The entire process of renal ascent is completed between 6 and 9 weeks gestation so that kidney resides in its normal orthotopic position in renal fossa inferior to adrenal glands[8]. An ectopic kidney can be present in many locations like abdominal, pelvic , iliac and thoracic . Sometimes , ectopic kidney can be present crossed or contraateral [2].

Maldevelopment of ureteral bud , defective metanephric tissue ,teratogenic causes or maternal illnesses are the factors which prevent ascend of kidneys [7]. An ectopic kidney had short ureter and it takes its blood supply from adjacent vessels.

An ectopic abdominal kidney lies superior to iliac crest and is near to second lumbar vertebrae. The ectopic kidney is usually smaller than normal part. Due to malrotation, renal pelvis lies anterior to the parenchyma .Majority of ectopic kidneys are asymptomatic. However it can presents with diffuse abdominal pain , urinary tract infection, hematuria , hydronephrosis and pyonephrosis . An ectopic kidney is more prone to blunt trauma because it is not protected by the rib

cage. Renal ectopia has strong association with anomalies of reproductive , skeletal and cardiac system [7,9,10]. Diagnosis of ectopic kidneys include intravenous pyelography, ultrasonography , CT scan and radionuclide scanning.

Majority of patients required no treatment for an ectopic kidney if renal function test is within normal limit and not associated with complications such as calculus formation , hydronephrosis or pyonephrosis.

Management of ectopic kidney stone poses a challenge to surgeons . Different methods are used such as extracorporeal shock-wave lithotripsy (ESWL) , percutaneous nephrolithotomy (PCNL),open or laparoscopic pyelolithotomy [3,4,5,6]. ESWL or PCNL are first options in ectopic kidney stone management . Stones in ectopic kidneys which fail to be managed by these methods are treated by laparoscopic or open pyelolithotomy. Sometimes we need subcapsular nephrectomy if ectopic kidney stone is associated with complications like pyonephrosis as in our case.

CONCLUSION

Since ectopic kidney is associated with many complications, early detection and close follow up is required even in asymptomatic patients.

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