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REVIEW ARTICLES **OPEN ACCESS**

NON-FUNCTIONING KIDNEY: A RARE PRESENTATION OF RENAL TUBERCULOSIS

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ABSTRACT

56 years old male patient who was treated for mild pain in the left lumbar area and ultrasound revealed hydronephrotic kidney with thin parenchyma with RUS at PUJ with non-functioning kidney on intravenous urography (IVU) and renal scan confirmed non-functioning kidney with zero percent function on left side. Patient underwent left nephrectomy and histopathology report revealed kidney full of pus and tuberculosis.

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INTRODUCTION

56 years old male patient from far flung village had attended urology OPD with chief complaints of dragging pain in left lumbar area for the last 1 month. There was no history of hematuria or passing any stone per urethra. No history of diabetes mellitus and hypertension or any ailment. Patient had two front incisor teeth which were too loose. Patient was advised ultrasound abdomen and pelvis, which revealed left gross hydronephrosis with pus at PUJ. Right kidney was normal, no other abnormality revealed in ultrasonography. His renal parameters were within normal limits with hemoglobin of 11.3g/dl and normal counts. Patient was advised IVU, which revealed non-functioning left kidney with a calculus at PUJ. Right kidney was normal (Fig. 1). Patient was advised DTPA renal scan which showed zero percent function on left side (Fig. 2). Right side was normal with GFR on right side 45% and left side zero percent.

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Patient was advised left nephrectomy. Patient was referred to dental department for loose teeth for which tooth extraction was done. Left nephrectomy was done under spinal anesthesia by giving left lumbar incision. On exploration, left kidney was just a bag of puswith no parenchyma palpable. Nephrectomy was done by individual ligation of vessels and ureter. Lots of adhesions were freed by cautery and ligature and specimen was removed and sent for histopathological examination.Under suction apparatus, small nick at specimen revealed thick pus coming out (Fig. 3). Wound was closed after putting wide drain and hemostasis. Skin was closed with skin stapler. Patient had uneventful recovery and was discharged on 7th postoperative day after removal of staplers. On follow-up patient came with histopathological reports which showed tuberculosis (Fig. 4). Patient was put on Gows regimen of ATT for 3 months. Patient has gained weight after surgery andis performing his routine work.

DISCUSSION

Diagnosis of lower urinary tuberculosis with urine culture sensitivity or histopathological is often delayed. Therefore, radiological examination is widely used to determine the same (1).

Fig. 1. Non excretion of contrast from left kidney with normal excretion from right kidney on IVU

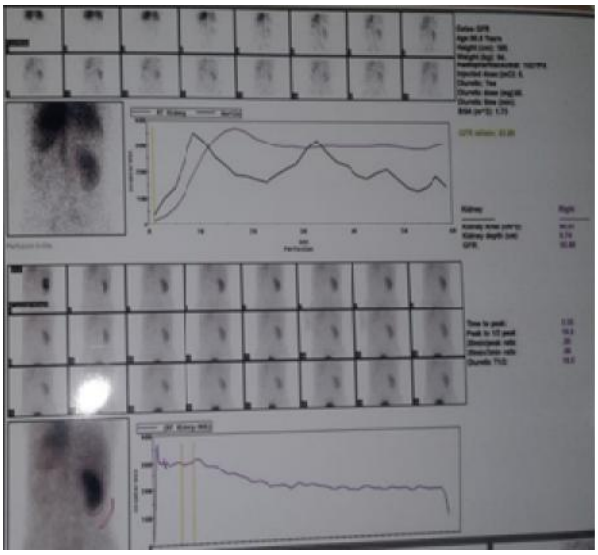

Fig. 2. DTPA renal scan showing zero percent function of left kidney

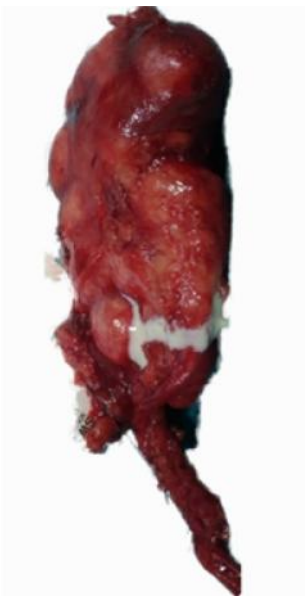

Fig. 3: Specimen showing left kidney along with ureter with thick pus coming out

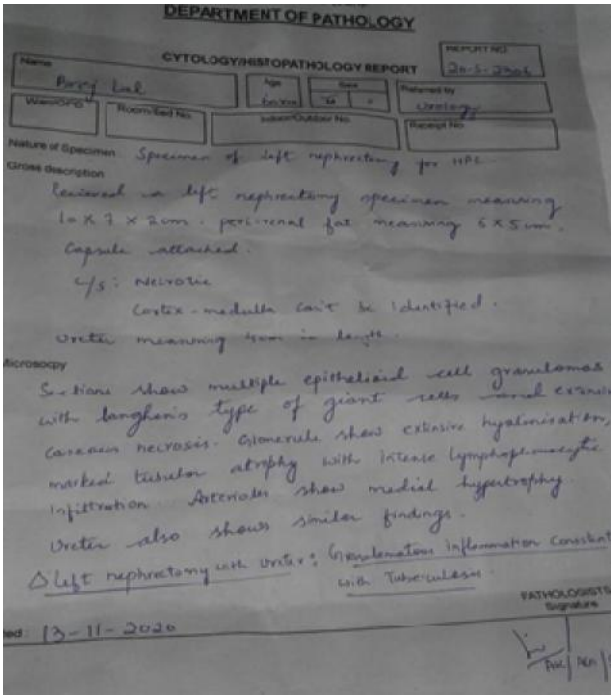

Fig. 4. HPE report which confirmed the diagnosis of renal tuberculosis

Primary renal tuberculosis remains confined to the glomerulus, but on reaction the it spread into medulla and interstitium. Disease progresses with caseous necrosis and cavitation within the renal parenchyma. Host healing response includes fibrosis, calcium deposition and stricture formation which contribute to obstruction and progressive dysfunction of the renal parenchyma (2). The end result of the diffuse disease is destruction, loss of function and calcification of the entire kidney (3) which we have noticed in our patient. Radiological findings of renal tuberculosis depend on the extent of disease progress and are best demonstrated by IVU and CT scan like moth eaten calyx and amputated calyx, phantom calyx. Diffuse, uniform calcification of kidney was not seen in our patient.

Our patient had mild pain for 1 month, further investigations revealed non-functioning kidney, but it was on histopathological examination which revealed patient had kidney full of pus with tuberculosis being one of the causes of lack of excretion of contrast medium by the kidney on IVU is obstruction of its draining urinary pathway. In such cases urinary excretion, although qualitatively altered, is partly preserved and the contrast medium excreted by the kidney parenchyma urine is sucked back into the blood flow by tubular and fornical reabsorption. It stresses the urgent necessity of early diagnosis by means of active investigations of patient with renal tuberculosis. Routine mass examination of age group 20-60 years, should be undertaken for patient who come for any medical ailment in polyclinics. In patients who had tuberculosis, should geturine for AFB tested every 3 months, while in the re-convalescents every six months for a period of 10 years. Most important abnormal symptom in patients with lower urinary tract tuberculosis is hematuria with mild fever or pyuria, raised ESR and dull pain in flanks (4). Our patient had more than one symptom that was dull pain in left renal area, which should not be ignored and should be fully investigated.

CONCLUSION

In patients presenting with non-functioning kidney, the diagnosis of renal tuberculosis should always be considered. Delayed presentation and diagnosis leads to complications like renal insufficiency, chronic kidney disease and even end stage renal disease. Timely detection and management can prevent morbidity and mortality in these patients.

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