

East African Medical Journal Vol. 78 No. 9 September 2001

UNDIAGNOSED RENAL ABSCESS PRESENTING AS ACUTE BACTERIAL PERITONITIS: CASE REPORT

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SUMMARY

A case of undiagnosed renal abscess complicated by intraperitoneal rupture with generalised bacterial peritonitis is presented. Prompt surgical intervention was essential for saving the patient's life. Early imaging of the kidney in unresolved renal infection is essential if renal abscess, its delayed presentation and complications are to be avoided. Most patients will be cured without operation by antibiotics and if necessary, by additional percutaneous drainage where an abscess has formed.

INTRODUCTION

Renal abscess also referred to as renal carbuncle is a localised abscess involving the parenchyma(1). The source of origin of the organism until three decades ago was usually a cutaneous lesion such as a boil, carbuncle, withlow or an abscess of the breast and conveyed to the kidney via the blood stream. A few of such cases in drug addicts and infected haematoma following a blow with injury to the kidney have been reported(2,3). Renal abscesses secondary to chronic non-specific infections of the kidney usually by gram negative enteric organisms often complicated by stone formation and ureteral obstruction seems common today(2,4). It is thought that with the advent of antibiotic therapy, immediate administration of such drugs has cured many lesions before they could be accurately diagnosed as having a staphylococcal origin. Multiple cortical abscesses develop that are usually focal. They coalesce to form a multilocular abscess. If the diagnosis is not made until late in the course of infection, the abscess may rupture into the pelvicalyceal system or into the perinephric space (perinephric abscess)(4). Intraperitoneal rupture with acute generalised bacterial peritonitis is, however, rare(2,4).

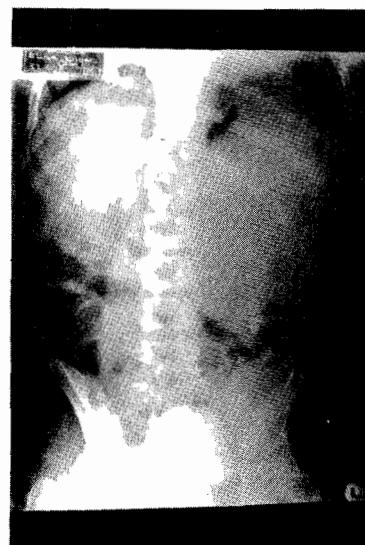
CASE REPORT

M. E., a 44-year old man presented at the surgical outpatient department with three months' history of progressive constant non-radiating, dragging left upper abdominal pain, high grade fever and two months' history of left upper abdominal mass. He had no urinary symptoms. The fever regressed with a seven day course of amoxicillin, but weight loss, dark urine and excessive sweating persisted throughout the period of the illness before presentation. There was a progressive increase in the size of the mass. Clinical and ultrasound diagnoses such as lymphoma, tropical splenomegaly syndrome and splenic abscess had been entertained elsewhere. Examination revealed a febrile young, wasted man with enlarged right axillary and groin nodes. The

blood pressure was 130/90 mmHg while the pulse rate was 100 beats per minute. The respiratory rate was 22 per minute. There was a huge reniform firm, tender, ballotable left hypochondrial mass extending to the left iliac fossa. Abdominal ultrasonography revealed a huge left upper abdominal mass of mixed echogenicity with the spleen displaced upwards and medially. Normal renal tissue was seen at the lower end of the mass. The right kidney appeared normal and measured 112mm by 50mm. An impression of renal mass was made. An intravenous urography showed a left renal mass. The left renal calyces were displaced downwards with only the lower moiety visualised. The right calyces appeared, but the infundibulum was not well defined.

Figure 1

Intravenous urography showing a huge left upper renal mass excreting contrast from the remaining normal tissue at the lower pole



The ureter was well defined. The urinary bladder was well opacified. Chest x-ray revealed an elevated left hemidiaphragm. Urine microscopy and culture on several occasions were negative. The packed cell volume was 28%, WBC 8,000/mm³, neutrophils 70%, lymphocytes 28%, eosinophils 2%, erythrocyte sedimentation rate 124mm/hour and genotype was AS. The Western blot test was negative for HIV-1 and 2. Electrolytes and urea: sodium 138mmol/L, potassium 4.2mmol/L, chloride 102 mmol/L, bicarbonate 25 mmol/L, urea 12.5 mmol/L, fasting blood sugar 5.0mmol/L. Mantoux test was 19mm. While awaiting results of some investigations, he developed generalised abdominal pain and presented in the casualty and emergency department. Findings were suggestive of peritonitis. He had laparotomy after resuscitation. Findings were a generalised peritonitis with interloop abscesses, fibrinous adhesions and leaking left renal abscess. The point of leak was medial to the descending colon. The kidney contained 3.1 litres of non-foul smelling pus that was completely walled by a thick capsule adherent to the posterior peritoneum. A small piece of normal renal tissue was found at the inferior pole of the mass. The left colon was mobilised and reflected medially and a left nephrectomy done. The peritoneal cavity was thoroughly lavage with saline and abdomen closed. Partial wound closure was effected. Culture of the pus yielded no growth. No acid fast bacilli were also seen in the specimen pus. Histology of the abscess wall revealed a non-specific inflammation. Post-operative recovery was uneventful and he was discharged home on the eleventh post-operative day. He is still doing fine ten weeks after surgery.

DISCUSSION

Renal abscess is rather uncommon. Antibiotics taken early have cured early cases leaving those secondary to chronic non-specific infections of the kidney complicated by stones formation and ureteral obstruction as common causes(2-4). However, in many tropical countries, inaccessibility to proper healthcare makes late presentation of primary abscess from haematogenous spread common. The absence of renal stones, ureteric obstruction, on trauma in our patient would seem to suggest that organisms were conveyed to the kidney via the blood stream. In a fully developed renal abscess diagnosis is usually not a difficult one. Where patients do not seek medical attention early, complicated cases as depicted in our report is not unexpected. Our patients have access to antibiotics that are taken to suppress infective symptoms, thus, allowing the suppurative disease to progress almost unnoticed. Furthermore, the absence of facilities to fully investigate and make appropriate diagnosis in some centres is another factor militating against the proper management of these patients. Several urine microscopy and culture neither yielded any positive bacterial growth nor pus cells. This was not unusual since the suppurative lesion is confined to the parenchyma of the kidney. The culture will only be positive where there is rupture into the pelvicalyceal

system. Intravenous urographic appearance of the abscess does not usually differ from adenocarcinoma of the kidney (Figure 1). In patients with chronic infections, hydronephrosis, pyelonephrosis changes and often stones are to be expected. Such kidneys often revealed delayed opacification. A few will be functionless. Diagnosis is usually made on angiography, the abscess fail to opacify and its walls are irregular. The surrounding vessels are displaced and hypervascularity is common. The most important sign is the presence of an increased number of capsular vessels over the area of the abscess. The appearance of an abscess on CT scan is probably undistinguishable from that of a neoplasm. Gallium-67 isotope scanning, localises inflammatory tissue even though excretory urograms are normal. Ultrasound and computer tomography proved to be the most valuable diagnostic tools in our environment by showing a hypoechoic and hypodense mass. Even though the mantoux test was significant in our patient, we did not find any other evidence of tuberculosis in this patient.

Most renal abscesses tend to rupture into the perinephrium. However, with a large abscess of this nature, its lateral and posterior walls are likely to be supported leaving the anterior and medial walls as the weakest point where a possible rupture may occur. The near replacement of the kidney by the suppurative lesion and a normal contralateral kidney necessitated a nephrectomy in our patient. This was probably appropriate in this patient as opposed to other surgical procedures like drainage of abscesses with or without a nephrectomy. Unresolved renal infections should frequently be investigated early with the available imaging techniques to prevent renal abscess formation and its complication.

ACKNOWLEDGEMENTS

To the Consultant Surgeons, Department of Surgery, Jos University Teaching Hospital, for advice and to Mr. Sylvanus Chime, for secretarial services.

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