

A Rare Case of Pyrexia of Unknown Origin due to Renal Actinomycosis

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ABSTRACT

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Primary or solitary renal actinomycosis is a rare disease.³ Since the first reported case in 1878 in Israel, only fifty such cases have been reported. Actinomycosis israeli is a harmless saprophyte that exists in the oral cavity, until there is a breach in the body's defence mechanism when hematologic or lymphatic metastasis occur.²

Keywords: Fungal infection, Renal fungal infections, Actinomycosis.

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INTRODUCTION

Renal actinomycosis can present in a variety of ways: as renal abscess, perinephric masses, renal sinus tract discharges.¹ Hydroureter, hydronephrosis, renal calculi and pyonephrosis are a logical sequel.

CASE REPORT

A 55 years old male was admitted with low grade fever, progressive loss of weight and loss of appetite of four months duration. He was not diabetic or hypertensive and did not suffer from coronary artery disease. He was a non smoker and not an alcoholic, he did not chew pan or tobacco. There was no history of abdominal pain, haematuria or oliguria. On examination, he was conscious, oriented and febrile. There was pallor but no jaundice, no lymphadenopathy or pedal oedema. Pulse rate was 100/mt and blood pressure was 130/80mm Hg. The cardiovascular system, central nervous system and respiratory system examination were within normal limits. On examination of the abdomen there was a mass 10 x 6 cm in the left lumbar region, firm in consistency, non tender, bimanually palpable and ballot able. There was no ascites or hepatosplenomegaly.

Investigations

Investigations showed a TLC of 8400/mm with neutrophils 65%, lymphocytes 30%, monocytes 2% and eosinophils 3%. Haemoglobin was 10.4% and ESR was 115mm/hr. Urine routine showed albumin - nil, sugar - nil, RBC - 6 to 8/hpf, WBC - 3 to 5/hpf. Random

blood sugar was 110mg/dl, blood urea 28mg%, serum creatinine 1mg%, serum sodium 135meq/l, serum potassium 3.7meq/l, serum chloride 98meq/l and serum bicarbonate 25meq/l. The bleeding time was 3 min, clotting time 4 min, prothrombin time 12 min (control 14 min) and activated plasma thromboplastin time 24 sec (control 28 sec). HBsAg, HIV and HCV antibody were negative. ECG and chest X-ray were normal.

Ultrasound abdomen detected a heterogeneous mass in the upper pole of left kidney. Contrast CT abdomen detected a mass lesion in the upper pole of left kidney with thickening of renal fascia. There was thickening of left dome of diaphragm but no hepatosplenomegaly. There were no enlarged intrabdominal lymph nodes. MRI of the abdomen revealed a low intensity mass on T1 and T2 weighted images.

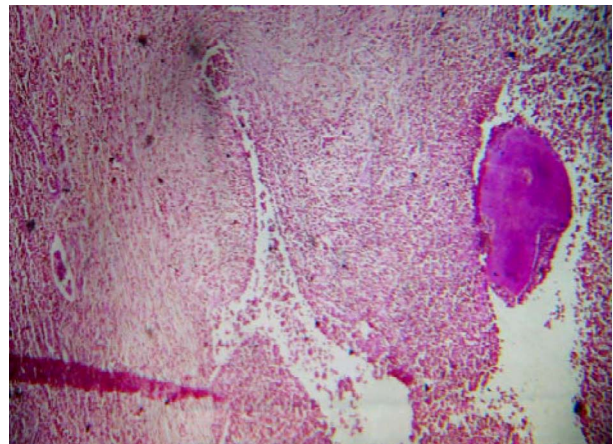


Figure 1. Title Histology showing chronic suppurative inflammatory lesion - abscess

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With the provisional diagnosis of a renal cell carcinoma of the left kidney or a renal pseudotumour caused by pyelonephritis, the patient underwent left nephrectomy. Postoperative period was uneventful. Histopathology of the renal lesion revealed features of chronic suppurative inflammatory lesion, suggestive of a chronic abscess due to actinomycosis of the kidney (Figure 1).

The patient received antibiotic coverage in the form of crystalline penicillin for fourteen days. He remained afebrile and asymptomatic and was discharged on the fifteenth post operative day with an ESR of 26mm/hr and hemoglobin of 12.3mg%. The patient was continued on antibiotic for a total of eight weeks till he was considered to be disease free.

DISCUSSION

Actinomycosis is a slowly progressive infection caused by an anaerobic gram positive branching filamentous bacteria that may fragment into bacillary forms.² Mucosal disruption may lead to infection at virtually any site of the body. Local infection, subsequent extension and distant hematologic seeding may ensue. The kidney may become involved by direct extension from the gastrointestinal tract in abdominal actinomycosis, through the diaphragm from pulmonary disease or by metastasis through the lymphatics or blood stream.⁵

Single or multiple indurations, central fluctuation with pus containing neutrophils and sulfur granules are virtually diagnostic. Sulphur in pus consists of a dense network of thin gram positive filaments surrounded by a peripheral zone of swollen radiating club shaped structures presenting as a sun ray appearance. The clubs are believed to be antigen antibody complexes called Splendor Hoeppli phenomenon.⁷ Once established, actinomycosis spreads contiguously in a slowly progressive manner.

The characteristic renal lesions are chronic abscesses as a result of progressive penetration and destruction of tissue. Tissue reacts to the invading parasite by the formation of nodules of granulation tissue rich in vessels and cells.⁶ The granuloma may extend through the capsule to invade the perinephric fat. When involvement is more diffuse, the entire kidney may be converted into a suppurating, granulomatous mass. Subsequently, multiple sinus tracts discharge to the skin. If the involvement begins in the lower pole

and spreads to obstruct the ureter, hydronephrosis will appear. Calculus formation and pyonephrosis are a logical sequelae. The bladder and the ureter are relatively spared while infected urine may be discharged from the kidney for many months.⁴

Early diagnosis and treatment with antibiotics for eight weeks is important for minimising the morbidity of the disease and preventing unnecessary surgery.² However incision and drainage of the abscess may be necessary as an adjunct to the antimicrobial therapy.

END NOTE

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