

Microscopic haematuria: A rare presentation of typhoid fever

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Abstract

Typhoid fever can cause a number of renal manifestations heretofore dubbed 'nephrotyphoid'. Haematuria in the absence of renal impairment is extremely rare among typhoid patients. We report a case of an adult who presented with a prolonged febrile illness and microscopic haematuria. Blood culture confirmed the diagnosis of typhoid and the patient was treated successfully with ceftriaxone.

Keywords

Typhoid fever, microscopic haematuria, nephrotyphoid

Introduction

Typhoid fever is more common in south central and Southeast Asia. Generally in typhoid fever, symptoms occur in the first week of illness. Signs of the disease occur in the second week and complications occur in the third week. The common symptoms are fever, abdominal pain, vomiting, diarrhoea, constipation and headache. The common signs are hepatosplenomegaly, relative bradycardia and abdominal tenderness. Complications are mainly an acute abdomen, intestinal perforation, psychosis, pneumonia, ataxia and nephritis.¹ Initial presentation as acute glomerular nephritis is a very rare manifestation of typhoid fever.^{2,3} Typhoid presenting as fever with isolated microscopic haematuria is likewise extremely rare.

Case report

A 30-year-old previously healthy man presented with a 7-day history of fever with chills and rigors. This was associated with vomiting, abdominal pain, loss of appetite and headache. No urinary symptoms were noted on presentation. He denied any sexual promiscuity and there was no history of recent travel to other tropical zones. There was no history of contact with another febrile illness in the recent past. Clinical examination was normal. Hepatosplenomegaly, lymphadenopathy and relative bradycardia were absent. Basic laboratory work-up including complete blood count, blood urea, serum creatinine, serum electrolytes,

fasting blood sugar, coagulation screen and liver function tests were within normal limits. The chest radiograph was unremarkable. The urine showed red blood cells of 20–30 cells/high power field; no proteinuria nor pyuria were noted. There were no dysmorphic red blood cells on urine microscopy. A plain abdominal radiograph and ultrasonography of abdomen ruled against nephrolithiasis. Urine culture and blood culture were sterile.

The patient was empirically treated with ciprofloxacin. He became afebrile and the haematuria cleared after 72 h of antibiotic therapy. He was discharged from the hospital with a course of ciprofloxacin for a total of 10 days.

One week after discharge he was readmitted with a fever of 3 days' duration. He admitted the fact that he had discontinued his antibiotic treatment on discharge. Clinical examination was again unremarkable. Basic laboratory investigations were repeated. Urine

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microscopy showed an increased red blood cell count of 80–90 cells/high power field. However dysmorphic red cells were not found on urine microscopy. Investigations for glomerulonephritis, namely anti-streptolysin O titre (ASOT) and rheumatoid factor were negative. The blood film showed a reactive picture and blood film for malaria parasite was negative. Standard agglutination test (SAT) for typhoid was negative. Multiple site blood cultures were taken considering the possibility of infective endocarditis. Transthoracic and transoesophageal echocardiogram failed to reveal vegetations on valves. Hepatitis B surface antigen, hepatitis C antibody, antinuclear antibody (ANA) and toxoplasma antibody were negative. Repeated examination of sputum for acid fast bacilli (AFB) was negative. Tuberculin skin test was also negative. Among the multiple blood cultures taken during his readmission one was positive for salmonella typhi. He was thus treated with a course of intravenous ceftriaxone. Microscopic haematuria completely resolved on discharge.

Discussion

Renal involvement in typhoid fever has been called nephrotyphoid.¹ The renal manifestations which can occur in typhoid fever are bacilluria, proteinuria, acute tubular necrosis with acute renal failure, cystitis, pyelonephritis, acute interstitial nephritis, acute glomerular nephritis and IgA nephropathy.² Typhoid fever causing glomerular nephritis and acute interstitial nephritis is very uncommon.⁴ Immune complex mediated glomerular damage is responsible for glomerular nephritis and hypocomplementaemia is uncommon compared to post-infectious glomerular nephritis.¹ If left untreated typhoid glomerular nephritis carries a very high mortality.² Sepsis is the main cause for renal failure. Isolated microscopic haematuria is an extremely rare presentation of typhoid fever.

Prolonged febrile illness is a problem encountered daily in tropical countries. The investigations necessary should be sufficiently directed to cut down the burden of costs. Clinical features including the atypical presentations of common infections and their demography are two important factors to be considered in selecting appropriate laboratory tests. In a patient with fever

with persistent microscopic haematuria, infective endocarditis should be entertained as an important differential diagnosis. Even though rare in a man, autoimmune causes of glomerulonephritis need to be ruled out. Typhoid fever and tuberculosis are the two bacterial infections with a wide variety of presentations in our part of the world. In this case, the initial treatment with ciprofloxacin led to a partial response. However its sensitivity in typhoid fever is only 40–80%, owing to a high rate of irrational use in the community.

This case illustrates the fact that treating clinicians should always consider prevalent infective causes and their atypical presentations while diagnosing prolonged febrile illnesses even in the absence of definite conclusive laboratory results.

Editorial comment

The Editor thanks Dr Stephen Smith for his erudite comments on the morphology and behaviour of *Dermatobia hominidis*; we are indeed indebted to him for his perspicacious and learned explanations. Nonetheless the message of the original paper by Pinos et al. stands: that is that not all larvae are beneficial, and some feed on living tissue. Thus the importance of surgical debridement and meticulous removal of fly larvae remains in situations of gross infection, and the therapeutical utilization of maggots needs care and some experience.

Conflict of interest

None declared.

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