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RESEARCH ARTICLE

RENAL AND PROSTATIC ABSCESSES: RARE COMPLICATIONS OF SCRUB TYPHUS

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ABSTRACT

Background: Scrub typhus, also known as bush typhus, is a zoonotic infection caused by Orientia tsutsugamushi, a gram-negative intracellular bacterium transmitted by the larval stage of trombiculid mites (chiggers). It is endemic in the "tsutsugamushi triangle," including parts of Southeast Asia and India. The disease usually presents with fever, headache, myalgia, lymphadenopathy, and hepatosplenomegaly. However, atypical manifestations involving the renal or prostatic systems are rare, and intra-abdominal abscess formation is an uncommon complication. **Case Presentation:** A 57-year-old male from Udaipur, Rajasthan, presented with high-grade fever for five days, headache, and diffuse abdominal pain for three days. Clinical examination revealed pallor and mild abdominal tenderness without rash or eschar. Laboratory findings showed anemia (Hb 9 g/dl), thrombocytopenia (52,000/µl), and mildly elevated urea (55.6 mg/dl). Scrub typhus IgM ELISA was positive, while dengue and malaria tests were negative. Abdominal ultrasonography demonstrated a renal abscess (42×29 mm) in the left kidney and multiple prostatic abscesses. Blood and urine cultures were sterile. The patient was treated with intravenous doxycycline (100 mg BD) and azithromycin (500 mg OD) for 10 days, resulting in complete resolution of symptoms and normalization of laboratory parameters. **Discussion:** Scrub typhus can present with a wide range of clinical manifestations. Although hepatic and renal dysfunction are common, abscess formation in the kidneys or prostate is exceedingly rare. Abscesses may develop due to localized necrosis or secondary bacterial infection. Early imaging and appropriate antibiotic therapy are crucial for diagnosis and management. **Conclusion:** This case underscores the importance of considering scrub typhus in patients with unexplained febrile illness and intra-abdominal abscesses in endemic regions. Prompt recognition and doxycycline-based therapy can prevent severe complications and improve patient outcomes.

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INTRODUCTION

Scrub typhus also called Bush typhus is a zoonotic disease caused by gram negative intracellular obligatory coccobacilli Orientia tsutsugamushi belonging from ricketssial family . It is transmitted by the larval stage of mites(chiggers) from the trombiculid family(1). Scrub typhus is endemic worldwide but predominately seen in tsutsugamushi triangle that extends from northern Japan and far eastern Russia in North, to the territories around the Solomon sea into northern Australia in the south, and Pakistan and Afghanistan in the west(2). The exact incidences are not known but in India it is endemic in few states like Himachal Pradesh, Jammu Kashmir, Haryana. But from last few years so many cases have been reported from Rajasthan, Karnataka, Kerala and other parts of India. The common clinical presentation of scrub typhus may be in form of fever , headache , myalgia, cough and gastrointestinal symptoms, rashes, hepatosplenomegaly and lymphadenopathy. But less commonly they can present like meningoencephalitis, polyneuritis cranialis, GBS, myocarditis ,acute respiratory distress syndrome, multiple organ dysfunctions(3). Renal involvement is also one of the rare presentation in form of minor urinary abnormality, proteinuria to acute kidney injury(AKI). Intra abdominal abscess like renal abscess and prostatic abscess are rarest presentation in Scrub typhus and very few cases have been reported so far.

CASE REPORT

A 57 year old male was admitted in medicine ward, R.N.T. Medical College, Udaipur-Rajasthan, India with chief complaint of high grade fever for 5 days which was remittent and associated with headache and generalised myalgia. Patient also complained of abdominal pain for 3 days which was dull aching and diffuse. There was no history of joint pain, bleeding manifestations, abdominal distention, cough, shortness of breath, burning micturition or loss of weight. He had no significant past medical history. On admission he was conscious and oriented to time, place and person. On general examination patient was febrile with a temperature of 101.4 F. He was vitally stable with pulse rate - 80/min, blood pressure - 104/70 mmHg, respiratory rate -

16/min, oxygen saturation - 98%. Patient had pallor, with no icterus, lymphadenopathy and pedal edema. No escar mark and rashes were found. Abdominal examination revealed mild tenderness in all the quadrants without any appreciable organomegaly. Respiratory, cardiovascular and central nervous system examination were unremarkable. So after history and examination a provisional diagnosis of acute febrile illness was made and for which patient was extensively investigated Complete Blood count revealed hemoglobin - 9 gm/dl, platelet count -52,000/ul and total leukocyte count -7100/ul. Urine microscopy and biochemical parameters were normal.Liver function test showed total bilirubin - 0.37 mg/dl, direct bilirubin -0.2 mg/dl, Serum Glutamic-oxaloacetic transaminase (SGOT) -43 U/L, Serum Glutamate-pyruvic Transaminase(SGOT) - 41 U/L, Alkaline phosphatase- 68 U/L. Lipid profile revealed raised triglycerides(221 mg/dl). Renal function test showed mildly raised urea(55.6 mg/dl), with creatinine -1 mg/dl. Serum electrolytes were in normal range. Chest radiography was normal and ECG showed normal sinus rhythm. Fever profile revealed Scrub IgM ELISA positive, Dengue profile and malaria profile were negative. Abdominal ultrasound revealed an echogenic area (42× 29mm) with internal small hypoechoic areas at the upper pole of left kidney suggestive of renal abscess(Figure-1) with moderate prostatomegaly and multiple echogenic areas of collection of varying sizes in prostatic parenchyma, largest measuring approx 28× 19 mm suggestive of prostatic abscess. To rule out other causes of renal and prostatic abscess his blood culture and urine culture were sent and found sterile.

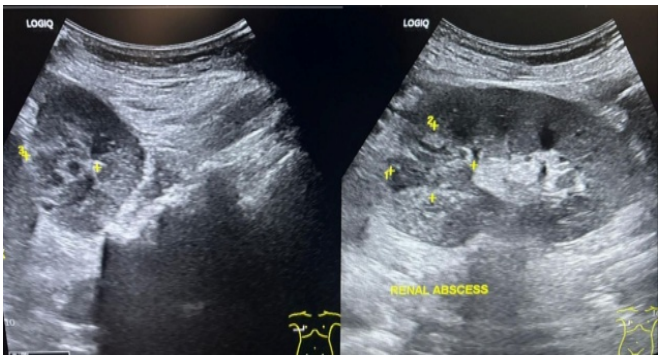

Figure 1. USG showing renal abscess

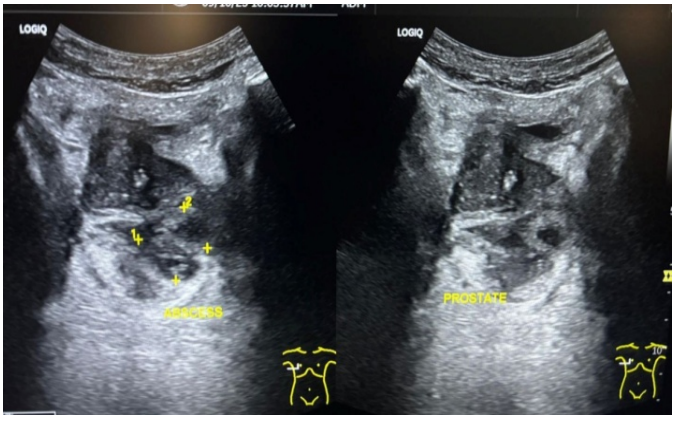

Figure 2. USG showing prostatic abscess

Patient was put on injection doxycycline 100 mg i.v. BD and injection Azithromycin 500 mg i.v. OD with supportive management for 10 days. Urologist opinion was taken for renal abscess drainage but they advised conservative management and review. After 10 days patient became afebrile, all symptoms disappeared. Computed tomography(abdomen+pelvis) revealed ill defined hypodense area(16×5 mm)in upper pole of left kidney with altered CT attenuation of adjacent renal parenchyma suggestive of renal abscess(Figure-3) and moderate prostatomegaly with multiple peripherally enhancing hypodense areas of varying sizes in prostatic parenchyma with adjacent fat stranding suggestive of prostatic abscess(Figure-4).

Figure 3. CECT showing renal abscess

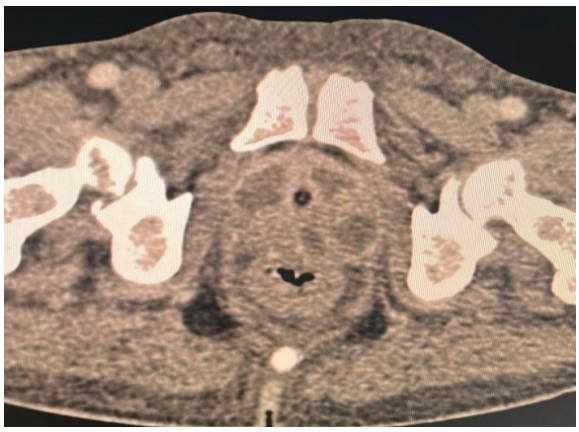

Figure 4. CECT showing prostatic abscess

DISCUSSION

Scrub typhus is an endemic tropical infection in many parts of southeast Asia. Clinical manifestations include fever with chills, rashes with or without eschar, myalgia, headache, nausea, vomiting, shortness of breath. An eschar is seen seldomly in scrub typhus patients[4] at the location of chiggers feeding site. It starts as a papule, then ulcerates and creates a black crust. Common laboratory findings include thrombocytopenia, leukocytosis and elevated transminases[5]. It can cause acute renal and liver failure. Meningoencephalitis, acute respiratory distress syndrome, myocarditis with shock and acute pancreatitis are not uncommon. Intra-abdominal abscesses such as renal, liver, pancreatic, splenic and prostatic abscess are rare. Abscess formation can occur after the liquefaction of localised areas of necrosis in various organs or can occur after secondary bacterial infection in the localised areas of collection. Renal abscess and prostatic abscess are not reported much. There is only a single case report on pancreatic(6) and renal abscess(7).These Abscess formation may prolong the duration of symptoms and require treatment for longer period and even drainage of the abscess. Abdominal ultrasound is the initial investigation to look for intra-abdominal abscesses and

then it can be confirmed by computed tomography. Scrub typhus can cause fatal complications increasing the mortility but timely intervention can improve the outcome.

CONCLUSION

This case was chosen due to the wide range of clinical manifestations which can occur in a patient with scrub typhus with rare complications like renal and prostatic abscess. So ultrasonography abdomen should be done in patient suspected of scrub typhus to rule out intra-abdominal abscess. As scrub typhus is a major tropical infection in many parts of the world with significant morbidity and mortality, early diagnosis and treatment can prevent fatal complications.

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