

Case report**AN UNUSUAL CAUSE FOR BOWEL PERFORATION-
LEPTOSPIROSIS****ABSTRACT**

Leptospirosis is an acute febrile illness of zoonotic origin that is endemic in many tropical and subtropical regions. Infection results from direct or indirect exposure to infected reservoir host animals that carry the pathogenic leptospires in the renal tubules and are shed in their urine. The spectrum of disease is extremely wide ranging from infections mimicking number of other unrelated infections viz dengue and other viral hemorrhagic fevers, hepatitis or pyrexia of unknown origin to life threatening complications including hepato-renal failure and multiorgan dysfunction. Gastrointestinal involvement in leptospirosis is rare and here we report a fatal case of leptospirosis with colonic perforation and multiorgan dysfunction with sepsis in a 65yrs old male patient.

Key words- Leptospirosis, Zoonosis, Colonic perforation

INTRODUCTION

Leptospirosis is one of the most wide spread zoonotic illness of ubiquitous distribution caused by a pathogenic spirochete belonging to the genus *Leptospira*. Infection is often transmitted by rodents or other animals through their urine which contains

the pathogenic *Leptospira*. Direct or indirect contact with infected animals results in infection. Spectrum of illness in humans is extremely wide ranging from asymptomatic illness with low morbidity to life threatening complications commonly called as Weil's disease with multi-organ dysfunction.

Diagnosis and treatment of Leptospirosis is a challenge to the clinician due to the wide range of clinical manifestations mimicking other illness that can involve any organ. Typical severe form of disease is characterized by jaundice, haemorrhage and renal failure. Timely diagnosis and appropriate treatment could be lifesaving in suspected leptospirosis. Gastrointestinal involvement in leptospirosis is seen in the form of pancreatitis, acalculous cholecystitis, peritonitis but it is rare. To date there is only one case report describing bowel gangrene as a complication of leptospirosis¹. Here we describe an unusual presentation of leptospirosis with colonic perforation progressing to multiorgan dysfunction and sepsis.

CASE HISTORY

A 65 yrs. old farmer with no known co-morbidities presented to the emergency department with complaints of fever, abdominal pain and distension for the past 1 week. He also noticed yellowish discoloration of his eyes, decrease in urine output,

48 hematuria, constipation and passage of dark brown coloured
49 stool for the past 3days. He started having fever a week ago,
50 which was high grade, biphasic in nature and was associated
51 with myalgia.

52 On examination, he was well built and nourished, conscious and
53 oriented. He was found to be afebrile and had icterus with
54 bilateral marked conjunctival suffusion. He was
55 hemodynamically unstable with a blood pressure of
56 90/70mmHg without ionotropic support. Abdomen was
57 distended and generalized tenderness was present with absent
58 bowel sounds. No organomegaly was detected. X-ray abdomen
59 showed air under the diaphragm. A clinical suspicion of
60 perforation peritonitis was made and emergency laprotomy was
61 performed after stabilizing the patient. Intraoperatively, on
62 opening the abdomen around 1 litre of feculent fluid was found
63 in the peritoneal cavity. Two perforations each of size 1 cm was
64 present in the descending colon 10cm distal to the splenic
65 flexure. Another perforation 3x2 cm in the distal sigmoid with
66 wall thickening was identified. No significant lymphadenopathy
67 was present around the lesions. Left hemicolectomy and
68 Hartmann's procedure with end-transverse colostomy was done.

69 Postoperatively patient was shifted to ICU and was put on
70 ventilator and double ionotropes as he was found to be
71 hemodynamically unstable with symptoms of septic shock,
72 where he died several hours later due to multi-organ

dysfunction with sudden cardiac arrest. Positive serological test for leptospirosis IgM ELISA became available shortly after the death. Other febrile agglutination tests were negative. Blood was sent for culture and sensitivity on admission and was sterile after 7 days of aerobic incubation. Histopathological examination of the resected specimen revealed ulcerated colonic mucosa with lamina propria showing predominantly chronic inflammatory cells composed of lymphocytes and plasma cells with presence of congested blood vessels.

DISCUSSION

Leptospirosis is the most common zoonotic disease globally caused by the pathogenic Spirochete *Leptospira interrogans* that can affect both animals and humans. The most common manifestations in severe disease are jaundice, renal failure and hemorrhage. However, it is a disease with varied clinical manifestations that can affect almost any organ in the body causing myocarditis, pancreatitis, acalculous cholecystitis, rhabdomyolysis, transverse myelitis, flaccid paraplegia, Guillian Barre syndrome, cerebral venous thrombosis, uveitis and renal failure¹⁻¹⁰. Gastrointestinal manifestations have been described in leptospirosis in the form of bowel gangrene, pancreatitis, peritonitis, acalculous cholecystitis^{1,2}. Above we have described an unusual case of leptospirosis with colonic perforation progressing to multiorgan dysfunction and sepsis.

Gastrointestinal involvement in leptospirosis is rare and is often associated with poor prognosis. The exact pathogenesis of gastrointestinal involvement in leptospirosis is not clear. Studies have shown that it may be due to complex interactions of various tissue injuring factors viz. hemolysins, endotoxins and lipase. Most consistent pathologic finding seen in leptospirosis is vasculitis of capillaries and the resulting loss of red blood cells through the enlarged junctions and fenestra that may lead to secondary tissue injury and this may account for the colonic perforation seen in our case.

CONCLUSION

This case demonstrates the gastrointestinal involvement in Leptospirosis in the form of colonic perforation and peritonitis progressing to multiorgan dysfunction leading to sepsis. Timely clinical diagnosis of leptospirosis and treatment with appropriate antibiotics could be lifesaving thus reducing morbidity and mortality.

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