

## Acute Pancreatitis as an Unusual Complication of Leptospirosis: A Case Report

Safae Roudi<sup>1\*</sup>, Z. Benjelloun<sup>1</sup>, A. Ait Errami<sup>1</sup>, S. Oubaha<sup>2</sup>, Z. Samlani<sup>1</sup>, K. Krati<sup>1</sup>

<sup>1</sup>Departement of Hepato-Gastro-Enterology, Arrazi Hospital, Mohammed VI University Hospital Center, Marrakech 40000, Morocco

<sup>2</sup>Departement of Physiology, Faculty of Medicine, Cadi Ayyad University, Marrakech 40000, Morocco

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\*Corresponding author: Safae Roudi

Departement of Hepato-Gastro-Enterology, Arrazi Hospital, Mohammed VI University Hospital Center, Marrakech 40000, Morocco

### Abstract

### Case Report

Leptospirosis is a zoonosis occurring worldwide, caused by pathogenic spirochaetes of the genus *Leptospira*. The clinical presentations of leptospirosis are variable, ranging from a simple atypical flu-like syndrome to a severe picture of multiple organ failure. We report a rare case of leptospirosis complicated by acute pancreatitis.

**Keywords:** Leptospirosis-Multiple organ failure-acute pancreatitis.

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## INTRODUCTION

Leptospirosis is a bacterial anthrozoosis caused by a spirochete: *Leptospira interrogans*. It is one of the most widespread zoonosis in the world and particularly common in tropical areas [1]. Human contamination occurs through direct contact with the urine, blood or tissues of infected animals or through exposure to contaminated water or rarely through inhalation [2]. Although the clinical signs of the disease may be absent or few, leptospirosis can present a serious picture of potentially multiple organ failure [3]. We report a rare case of leptospirosis revealed by acute pancreatitis.

## CASE REPORT

A 48-year-old patient followed for diabetes type 2 was admitted to our emergency department for a flu-like symptoms, acute epigastric abdominal pain and frank mucocutaneous jaundice.

The clinical examination showed a patient with high temperature (38.5°C), tachycardia (95 beats/min), polypnea (33 cycles/min) with frank mucocutaneous jaundice and epigastric tenderness. Blood tests revealed a lipasemia level of 447 IU/L (> 3 ULN), thus the diagnosis of acute pancreatitis was made. The blood count also showed hyperleukocytosis at 28,640 cells/mm<sup>3</sup>, thrombocytopenia at 64,000 cells/mm<sup>3</sup>, prothrombin level at 83%, ALT 65 U / l, AST 70 U/l conjugated hyperbilirubinemia at 161mg/l, Gamma glutamyl transferases 163 U/L, alkaline phosphatases

253 U/L, C-reactive protein 33 mg/l and correct blood ionogram and renal function.

An abdominal ultrasound showed an enlarged hypo echogenic pancreas, an alithiasic gallbladder with no dilatation of the intra and extra hepatic bile ducts, then an abdominal CT scan concluded the appearance of acute pancreatitis stage C of Balthazar. Hepatic viral A, B, C and HIV serologies were negative with strongly positive Martin and petit serologies. Consequently, the diagnosis of leptospirosis complicated by acute pancreatitis was confirmed. The therapeutic management was resting the digestive tract, rehydration, analgesics, anti-ulcer prevention by a proton pump inhibitor and antibiotic therapy based on Ceftriaxone 2g/day for 7 days with good clinical and biological response.

## DISCUSSION

Leptospirosis is a bacterial zoonosis with worldwide distribution. It causes more than 1 million cases and is responsible for approximately 60,000 deaths per year, more frequent in countries with tropical climate such as Southeast Asia, Pacific and Latin America. In Africa, leptospires are known in North Africa [4].

Leptospirosis is an infection caused by bacteria of the genus *Leptospira* spp. belonging to the order of spirochetes. Some of these species are saprophytic (eg *L. biflexa*) while others are pathogenic (e.g. *L. interrogans*, *L. borgpetersenii*, *L. kirschneri*) [5]. The

animal reservoir is small mammals (mainly rodents including rats) [6]. Human contamination occurs on indirect contact with the infected animal host that carries its leptospire in the kidneys and will contaminate the environment through his urine. This mainly occurs during immersion in an area where the fresh water has been contaminated by urine from an excretory animal (mainly rodents) or during unprotected walking on wet ground or in mud [7].

After an incubation period of ten days, human leptospirosis is known by its polymorphic clinical presentation, four main clinical profiles are described: flu-like syndrome, Weil syndrome which is the most serious form (jaundice, renal failure, haemorrhagic syndrome, myocarditis), meningitis or meningoencephalitis, pulmonary haemorrhage with respiratory failure. Chronic forms are described, mainly with ocular symptoms [6]. This syndrome can be confused with other diseases such as influenza or, in tropical regions, malaria or dengue [8]. Acute pancreatitis is one of the rarest complications of leptospirosis. It can be revealed by abdominal pain, nausea, vomiting, diarrhea and anorexia [9-11]. In our case, leptospirosis complicated by acute pancreatitis was clinically revealed by a flu-like syndrome associated with acute epigastric pain.

Leptospirosis infection is often confirmed by serology which is the detection of anti-leptospira antibodies using Elisa IgM type tests and/or the micro-agglutination test for total immunoglobulins. As for bacteriological diagnosis, it is little practiced because it requires a specific culture medium and the isolation-propagation time of leptospire is particularly long [12-14]. In our case, the diagnosis of leptospirosis was made after positive Martin and Petit serology, which revealed specific agglutinins.

To make the diagnosis of acute pancreatitis, a high level of lipasemia associated with acute epigastric pain are required as in the case of our patient. Abdominal CT is generally requested for prognostic purposes [15].

The therapeutic management of leptospirosis complicated by acute pancreatitis is based on resting the digestive tract, analgesics, hydro-electrolytic rehydration, enteral or parenteral nutrition. As for antibiotic therapy against leptospirosis, it recommends in case of a severe form: penicillin G. Nevertheless, from a practical point of view and because of the narrowness of its spectrum while the diagnosis is often difficult to distinguish from other acute bacterial infections ceftriaxone [16] and cefotaxime [17] should be preferred. In case of a non-severe form, oral treatment with doxycycline 100 mg × 2 during 5-7 days is recommended [18].

The prevention of leptospirosis is based on two strategies: vaccine prevention and antibiotic prophylaxis. Physical protection measures are also recommended in case of an exposure risk situation (wearing boots, gloves and goggles) [19].

## CONCLUSION

Although acute pancreatitis is a rare complication of leptospirosis, the diagnosis should be considered early in any patient with leptospirosis having an acute abdominal pain in order to treat it on time so that we control its severe evolution.

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