A young man with acute febrile illness, jaundice, renal failure and hemorrhage

Um jovem com doença febril aguda, icterícia, insuficiência renal e hemorragia

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Abstract

Human leptospirosis or Weil's disease is an emerging or re-emerging cosmopolitan zoonosis with pitfalls related to unspecific features and variety of differential diagnosis. Additional concern is about the possibility of viral, bacterial and protozoan coinfections. The clinical spectrum of Weil's disease ranges from mild anicteric to more severe manifestations including jaundice, renal failure, and hemorrhages and poor outcomes. The authors describe a typical case of this challenging condition successfully treated. The aim is to enhance the suspicion index of health workers in primary care attention.

Key words: Diagnosis; human leptospirosis; Weil's disease

Resumo

A leptospirose humana ou a doença de Weil é uma zoonose cosmopolita emergente ou reemergente com desafios relacionados com características inespecíficas e a variedade de diagnósticos diferenciais. Uma preocupação adicional é a possibilidade de coinfecções virais, bacterianas e protozoárias. O espectro clínico da doença de Weil varia de manifestações anictéricas leves a manifestações mais graves, incluindo icterícia, insuficiência renal e hemorragias, com mau prognóstico. Os autores descrevem um caso típico desta condição desafiadora tratada com sucesso. O objetivo é aumentar o índice de suspeição dos profissionais de saúde em atenção primária.

Palavras-chave: Diagnóstico; leptospirose humana; doença de Weil

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Introdução

This 22-year-old afro descent homeless and low-income worker presented with an acute febrile illness manifested by dry cough, nausea, vomiting and liquid yellowish diarrhea without mucus, pus, or blood. On the third day of disease, there was total loss of appetite, chest pain and myalgia in lower extremities, and breathlessness even at rest. He noticed yellow-colored skin and conjunctiva, mild nasal, buccal and cutaneous hemorrhages also occurred; and the collected urine presented dark coloration (Figure 1).

Figure 1. **A**: Accentuated cutaneous jaundice, discrete petechial changes in the anterior chest wall, and blood crusts in the lips (arrows), due to a recent episode of gingivorrhagia and epistaxis; **B**: Marked jaundice associated with conjunctival suffusion, considered classical features of icteric leptospirosis; and **C**: Dark to brown discoloration of the collected urine that is related to the excess of conjugated bilirubin.

He was previously healthy, with alcohol abuse and cigarette smoking (pack-year: 24). Clinical manifestations had abrupt onset, one week after close contact with street flood. On admission, he was lucid and well oriented, blood pressure: 129 x 82 mmHg, heart rate: 77 bpm, respiratory rate: 15 rpm, SaO_2: 98% (breathing room air), jaundiced (4+), dehydrated (2+), with subconjunctival hemorrhages and abdominal pain on palpation. Discrete thoracic *petechiae* and blood crusts in the lips and right nostril were observed. There were neither liver nor spleen enlargements, as well as lymph node abnormalities. Computed tomography without contrast showed discrete ascites and hepatic steatosis.

Initial and late controls of blood tests (normal ranges in parenthesis) showed hemoglobin (11.7-15.7 g/dL): 11.5 and 11.6; hematocrit (35-47%): 32.6 and 36.0; leukocytes (4-10 x 10^9/L): 14.3 and 7.7; platelets (140-450 x 10^9/L): 46 and 188; total bilirrubin (0.3-1.3 mg/dL): 29.1 and 13.3; aspartate transaminase (12-38 IU/L): 515 and 68; alanine transaminase (7-41 IU/L): 155 and 12; lactic dehydrogenase (240-480 IU/L): 1155 and 452; alkaline phosphatase (65-300 IU/L): 432 and 523; gamma-glutamyltransferase (10-49 IU/L): 67 and 38; amylase (≤ 125 IU/L): 649 and 126; glucose (70-99 mg/dL): 62 and 109; sodium (135-145 mmol/L): 139 and 142; potassium (3.5-5.5 mmol/L): 3.4 and 4.1; urea (10-50 mg/dL): 212 and 22; creatinine (0.7-1.4 mg/dL): 6.1 and 0.7; and creatine phosphokinase (25-195 IU/L): 6663 and 218. According to the Health Ministry protocol, blood samples were sent to FIOCRUZ-RJ.

Because of clinical suspicion of infectious disease, he underwent an empirical course of ceftriaxone during 10 days, which was followed by significant clinical improvement. Currently asymptomatic, the patient is under close follow-up on outpatient service.

Leptospirosis or Weil's disease

Laboratory evaluation for malaria, syphilis and viral infections including HIV, dengue, chikungunya, yellow fever, zika, and hepatitis were negative; whereas the result of the immunoenzymatic test for leptospirosis (IgM) was 100 IU/ml (cut-off: 20 IU/ml). Therefore, the definite diagnosis was classical Weil's disease that is characterized in the patient herein described by jaundice, renal failure and hemorrhagic phenomena.[1-6]

Leptospirosis is the major emerging or re-emerging cosmopolitan zoonosis, and diagnostic challenges in primary health attention are due to unspecific presentations.[2-6] Male prevalence and travel to endemic areas may constitute a useful diagnostic clue.[1-6] Contaminated fresh or sewage water is the main risk factor for leptospiral infection.[2,4,6] Although most of cases evolve anicteric, the severe forms can have poor outcomes with complications as pneumonitis, meningitis, cholecystitis, pancreatitis and pericarditis.[1-6] Weil's syndrome refers to more ominous features of disease including jaundice, renal failure, and hemorrhages, associated with fever, headache, myalgia, and arthralgia.[1-6] Laboratory tests may be useful for suspicion index based on hyperbilirubinemia, low platelets, and high levels of transaminases, alkaline phosphatase, urea and creatinine.[1-6] Pitfalls may be related to coinfections as yellow fever, dengue, zika, or chikungunya.[1,3,6] The confirmed presence of leptospiras in specimens of tissues or body fluids; or positive tests specific for this agent is mandatory for establishment of the definite diagnosis.[1-6] The early diagnostic confirmation and prompt antibiotic therapy get best prognosis[1-6]. Accentuated thrombocytopenia observed both in icteric and anicteric patients is a major concern of management, and its treatment includes corticosteroid and antibiotic use.[1-6] Low platelets can be due to coexistent dengue, yellow fever, hantavirosis, or malaria.[1,3,6]

The aim of this description of a typical case of Weil's disease is to enhance the suspicion index about tropical endemic zoonosis that can occur as emerging diseases.

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