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LETTER TO THE EDITOR / *LETTRE À L'ÉDITEUR*

An atypical presentation of severe fulminant leptospirosis

Une présentation atypique de leptospirose grave

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To the Editor,

Leptospirosis, a worldwide zoonosis transmitted to humans by the urine of a large variety of species, is typically a biphasic disease that begins with flu-like symptoms and usually spontaneously improves without any antibiotic. In some cases, initial presentation is followed by icteric multi-organ involvement with bleedings, meningitis, and acute renal failure (ARF) [1]. We report a healthy 64-year-old patient with no significant past medical history who developed an atypical presentation of fulminant leptospirosis. The patient was referred to our institution for the rapid onset of asthenia, shivers, hyperthermia (40 °C)/hypothermia (33 °C), dyspnea at effort, and diarrhea. The patient initially presented hypotension not responsive to fluids, rapidly followed by bilateral crackles, mottling, cyanosis, and dyspnea, diagnosed as acute respiratory distress syndrome (ARDS) based on bilateral alveolar opacities, PaO_2/FiO_2 ratio of 96 mmHg, and absence of cardiac dysfunction using echocardiography. Laboratory tests showed inflammatory syndrome (C reactive protein: 250 mg/L, white blood cell count: 13 G/L), ARF (serum creatinine: 232 μmol/L, blood urea nitrogen: 25 mmol/L), and thrombocytopenia (66 G/L) without anemia. Prothrombine index and plasma fibrinogen were normal without liver dysfunction or rhadomyolysis. Septic shock was suspected. The patient was transferred to the intensive care unit (ICU), intubated, mechanically ventilated using 100% FiO_2, and he received norepinephrine infusion as well as ceftriaxone and levofloxacine as probabilistic antibiotics. Two days after admission, samplings for leptospirosis, tularaemia, and hantavirusis were obtained, due to a recent history of hunting and contact with rodents ten days earlier. Anuric ARF (serum creatinine: 530 μmol/L, blood urea nitrogen: 39.5 mmol/L) necessitated hemodialysis while thrombocytopenia got worse (25 G/L). CT-scan revealed diffuse alveolar infiltrates and pulmonary opacities without abdominal abnormalities. ARDS was treated with protective ventilation. Four days after admission, leptospirosis was diagnosed, based on polymerase chain reaction further confirmed by serology. Ceftriaxone was further continued alone for ten days. On day seven, the patient was extubated, with spontaneous improvement in renal function and platelet count. He was discharged from the ICU at day 11 and hospital at day 16. On discharge, respiratory and renal functions were normal.

This leptospirosis case is particularly atypical in its presentation and outcome. The patient did not present the classical biphasic course and did not come back from an endemic country. He presented with septic shock associated with ARDS and anuric ARF without jaundice or hemoptysis. In the literature, 16–40% of the patients develop ARF but most of them keep normal diuresis [1]. Oligoanuric ARF is associated with mortality, multiplying the risk of death by 9 [2]. Respiratory failure is not rare but usually patients develop mild respiratory symptoms and no sequellae. ARDS requiring mechanical ventilation is rather rare leading to an elevated death rate (up to 50%). Overall mortality in severe cases may be as high as 25%, but antibiotics are extremely effective if started early [2]. In patients with leptospirosis-related acute lung injury who are mechanically ventilated, three variables independently predicted mortality: hemodynamic disorders, serum creatinine > 265 μmol/L, and serum potassium > 4.0 mmol/L [3]. Five other prognosticators were also suggested, including dyspnea, oliguria, white blood cells > 12.9 G/L, repolarization abnormalities on electrocardiogram, and alveolar infiltrates [4]. Here, despite exhibiting seven among these eight bad prognosticators, our patient survived, probably in relation to the rapid administration of adapted antibiotics after hospital admission [5]. In conclusion, ICU physicians should be aware of the possible atypical leptospirosis presentations and seek for any predisposing factor.

Conflict of interest: the authors don't have any conflict of interest to declare.

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References

1. Levett PN (2001) Leptospirosis. Clin Microbiol Rev 14:296–326
2. Daher E, Zanetta DM, Cavalcante MB, Abdulkader RC (1999) Risk factors of death and changing patterns in leptospirosis acute renal failure. Am J Trop Med Hyg 61:630–4
3. Marotto PC, Nascimento CM, Eluf-Neto J, et al (1999) Acute lung injury in leptospirosis: clinical and laboratory features, outcome, and factors associated with mortality. Clin Infect Dis 29:1561–3
4. Dupont H, Dupont-Perdrizet D, Perie JL, et al (1997) Leptospirosis: prognostic factors associated with mortality. Clin Infect Dis 25:720–4
5. Panaphut T, Domrongkitchaiporn S, Vibhagool A, et al (2003) Ceftriaxone compared with sodium penicillin G for treatment of severe leptospirosis. Clin Infect Dis 36:1507–13