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Weil's Syndrome

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SUMMARY

A case of leptospirosis in an 18-year-old white male was reported. Weil's syndrome was characterized by intense jaundice, acute renal failure, skin ecchymoses and conjunctival suffusion, in addition to meningitis. The polymerase chain reaction for *Leptospira* was negative, while the titers of the antibody microagglutination test against *L. grippityphosa* rose higher than fourfold (up to 1:1,600) in the same blood sample. Patient's treatment consisted of rehydration and supportive care of acute renal failure, besides antibiotic therapy. Penicillin administration started after 6 days of disease. Patient improved without clinical sequelae.

Subject headings: LEPTOSPIRA INTERROGANS; LEPTOSPIROSIS/therapy; WEIL'S DISEASE/therapy; REHYDRATION; KIDNEY FAILURE ACUTE/therapy; ANTIBIOTICS.

This is a case report of icteric leptospirosis associated with skin and ocular bleeding, renal failure and meningitis. Leptospirosis is a spirochetal infection caused by pathogenic serovars of the *Leptospira interrogans* species, pertaining to genus *Leptospira*. The association of jaundice, hemorrhagic phenomena and acute renal failure in patients with *Leptospira* infection is called Weil's syndrome.¹ Arterial hypotension associated to meningoencephalic changes and high CSF pleiocytosis may herald a worse prognosis in cases of Weil's syndrome.

In leptospirosis, the best effects of antibiotic therapy are achieved when started into the first four days of disease; however, it represents an exceptional condition in clinical practice due to recognized impossibility to confirm this diagnosis so rapidly in the vast majority of cases.² The clinical course, the neurological findings and CSF changes indicated the severity of present case, favoring the beginning of intravenous (IV) penicillin therapy even after the 4th day of disease.

CASE REPORT

An 18-year-old white male was seen on January 9th, 1994, with abrupt onset of fever (39.3 °C), headache, myalgias, abdominal pain, anorexia, asthenia, vomiting, diarrhea, and jaundice for three days. Two weeks before symptoms onset,



Fig. 1. Conjunctival hemorrhage associated to jaundice in patient's skin and sclera.

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Fig. 2. Ecchymoses and petechiae, in addition to jaundice on the forearm skin.

he had been swimming in a river barrage on the south region of Brazil. On admission, he was alert, jaundiced, with a conjunctival suffusion (fig. 1). Temperature was 38.1 °C. The heart was normal; pulse rate, 100 bpm; blood pressure, 90/60 mmHg. The lungs, arterial pulses, and lymph nodes were normal. The liver was 4 cm below right costal margin. The spleen was not palpable. Several ecchymoses and petechiae were seen on the forearm skin (fig. 2).

The blood, CSF and urine cultures were negative for bacteria. The polymerase chain reaction (PCR) for *Leptospira* was negative, while the titers of the antibody microagglutination test (MAT) against *L. grippityphosa* rose higher than fourfold (up to 1:1,600), establishing the diagnosis of leptospirosis. Routine blood tests revealed glucose 5.5 mmol/L; creatine kinase 460 U/L; AST 1.16 mKat/L; ALT 1.36 mKat/L; GGT 0.50 mKat/L; alkaline phosphatase 4.25 mKat/L; direct bilirubin 199 mKat/L; indirect bilirubin 131 mKat/L; LDH 592 U/L; BUN 75 mmol/L; creatinine 292 mmol/L; sodium 132 mmol/L; potassium 3.35 mmol/L; erythrocytes 5.1×10^{12} cells/L; hemoglobin 2.26 mmol/L; hematocrit 0.42 volume fraction; leukocytes 17.9×10^9 cells/L (metamyelocytes 1 %, bands 7 %, segmented neutrophils 77 %, lymphocytes 10 %, monocytes 5 %); platelets 61×10^9 /L; fibrinogen 1.07 g/L; prothrombin time 21 sec; APTT 12 sec; clotting time 7.30 min; bleeding time 2 sec; ESR 70 mm/hr. Chest X-ray and EKG were normal. Urinalysis showed density 1.011, no proteinuria or hematuria. CSF was very

cloudy, with 1.24×10^9 cells/L (neutrophils 51 %), protein 0.64 g/L and glucose 2.27 mmol/L.

Therapy included hydration, nutrition support, furosemide, and penicillin G, 24 million units IV, q4h aliquots. Patient's hospital discharge occurred three weeks after admission.

DISCUSSION

The severity of disease was established by the presence of complete Weil's syndrome, arterial hypotension and meningitis with high pleiocytosis. In such cases, antibiotic therapy should be used, even if treatment schedule has to begin relatively late in the course of the illness.³ Dialysis was not performed in this patient because despite the very high creatinine and BUN serum levels, the diuresis could be maintained normal and neither hyperkalemia nor EKG abnormalities occurred.

Notwithstanding the high specificity of PCR to confirm diagnoses of leptospirosis,⁴ limitations include high costs, difficulties to perform, and lack of adaptation for use in the field. Another concern, which is worth our attention in this case, refers to the negative result of PCR in the same blood sample where MAT was positive. In a whole, these data suggest that, in relation to diagnosis of leptospirosis, MAT and dipstick assay⁵ represent the best tools for general practitioners, mainly in field conditions.

RESUMEN

Se describió un caso de leptospirosis en un hombre blanco de 18 años. Síndrome de Weil se caracterizó por intensa ictericia, insuficiencia renal, equimosis en la piel y hemorragia en las conjuntivas, además de meningitis. La reacción en cadena de la polimerasa para *Leptospira* fue negativa, mientras los títulos del test de microaglutinación contra *L. grippityphosa* fueron elevados más de 4 veces (hasta 1:1.600) en la misma muestra de sangre. El tratamiento del paciente consistió en rehidratación y medidas de soporte para falla renal aguda, además de antibióticoterapia. La administración de penicilina G empezó 6 d después de iniciada la enfermedad. El paciente tuvo una evolución clínica sin secuelas

DeCS: LEPTOSPIRA INTERROGANS; LEPTOSPIROSIS/terapia; ENFERMEDAD DE WEIL/terapia; REHIDRATACION; INSUFICIENCIA RENAL AGUDA/terapia; ANTIBIOTICOS.

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