



A CASE OF SEVERE LEPTOSPIROSIS PRESENTING AS WEIL'S DISEASE

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ABSTRACT

A 22 years old male a sewage worker from kerala, presented with chief complaints of High grade fever from 6 days, Cough with SOB & hemoptysis from 4 days. No Rash over body. H/O similar complaints present 2 weeks ago. On examination he is Febrile, Jaundice present, B.P: 94/70 mm Hg. SpO₂ at room air is 90% & with 5Ltrs of O₂ Spo₂ is 96%. No organomegaly found clinically. Bilateral crepitations present. Investigations revealed leucocytosis with Thrombocytopenia, Peripheral smear showed Normocytic Normochromic anemia with thrombocytopenia with no malarial parasites, Hyperbilirubinemia, Elevated renal paramaters. USG abdomen showing hepatomegaly. HRCT chest suggestive of Interlobular septal thickening suggestive of infective etiology. 2DECHO is Normal. Evaluation of leptospirosis by Modified Faine's criteria supported and Serum Leptospiral antibodies by EIA showed positive for IgM & IgG. Weil felix is Non-reactive. He was diagnosed as Weil's disease & treated with antibiotics. He responded and improved.

KEYWORDS: Severe Leptospirosis, Weil's disease, Modified Faine's Criteria.

INTRODUCTION^[1]

Leptospirosis has been under reported and under diagnosed from India due to a lack of awareness of the disease and lack of appropriate laboratory diagnostic facilities in most parts of the country. Combining clinical expertise and awareness with confirmatory laboratory back up dramatically increases the recognition of patients with leptospirosis.

Clinical features of leptospirosis vary from mild illness to severe life-threatening illness. Leptospirosis can be diagnosed only by laboratory tests as the clinical features are nonspecific.

But the laboratory tests are complex and hence definite guidelines for diagnosis of human leptospirosis is necessary. We report a case of severe leptospirosis presenting as weil's disease who was diagnosed using Indian guidelines for leptospira.

CASE REPORT

A 22 years old male, a sewage worker from kerala, presented with chief complaints of High grade fever from 6 days, Cough with SOB & Hemoptysis from 4 days. No Rash over body. H/O similar complaints present 2 weeks ago.

On examination he is Febrile, Jaundice present, B.P: 94/70 mm Hg. According to Modified Faine's criteria

(2012) Total Score- 37. SpO₂ at room air is 90% & with 5Ltrs of O₂ Spo₂ is 96%. No organomegaly found clinically. Bilateral crepitations present.

Non oliguric renal dysfunction present. Investigations revealed leucocytosis with Thrombocytopenia, Peripheral smear showed Normocytic Normochromic anemia with thrombocytopenia with no malarial parasites, Hyperbilirubinemia,

Elevated renal paramaters. CPK levels are slightly elevated. USG abdomen showing hepatomegaly. Complete urine examination is normal. Sputum Microscopy showed RBCs with AFB staining negative. CXR PA showed Bilateral reticulo nodular opacities with no cardiomegaly.

HRCT chest suggestive of Interlobular septal thickening suggestive of infective etiology. 2DECHO is Normal. Serum Leptospiral antibodies by EIA showed positive for IgM & IgG. Weil felix is Non-reactive. He was diagnosed as Weil's disease & treated with Ceftriaxone, Doxycycline and improved.



HRCT chest of patient showing Bilateral extensive, nodular pattern with interlobular septal thickening suggestive of infective etiology

DISCUSSION

Leptospirosis is a zoonotic disease caused by pathogenic spirochetes of the genus *Leptospira*.^[3] Genus *Leptospira* is broadly divided into two species: *Leptospira interrogans* comprising all pathogenic strains, and *Leptospira biflexa*, containing the saprophytic (non-pathogenic) strains isolated from the environment.

In its mild form, leptospirosis may present as an influenza-like illness with headache and myalgia. Fever, chills, headache, myalgia, skin rash, nausea, vomiting, conjunctival suffusion, and prostration. Severe leptospirosis, characterized by jaundice, renal dysfunction, and hemorrhagic diathesis, is referred to as Weil's syndrome.^[2] Incubation period is usually 7-12 days. It has a case fatality rate of 1-50% if untreated. Early diagnosis of leptospirosis should be considered & treated especially in endemic areas like Kerala, Tamilnadu, Gujarat & Maharashtra, for which various guidelines^[2] are available in India.

1. Faine's criteria(WHO guidelines) in 1982
2. Modified Faine's criteria(2004)
3. Modified Faine's criteria with amendment(2012)
4. ICMR guidelines
5. NICD guidelines(2006)

S Shiva kumar^[1] studies in India has found that only four states (Kerala, Gujarat, Tamilnadu and Maharashtra) were the leading cause of leptospirosis cases from India which report > 500 cases per year. He modified Old Faine's criteria and made easy in diagnosing the leptospirosis cases. Various studies made by him helped in forming the Indian guidelines for diagnosis & management of leptospirosis.

Table 1: Modified Faines criteria

Modified Faine's criteria ¹		
Clinical data (Part A)	Epidemiological factors (Part B)	Bacteriological & Laboratory findings (Part C)
Headache 2	Rainfall 5	Isolation of leptospira in culture—Diagnosis certain PCR 25
Fever 2	Contact with contaminated environment 4	
Temperature >39 C 2	Animal contact 1	Positive serology:
Conjunctival suffusion 4	Total 10	Elisa IgM positive * 15
Meningism 4		SAT-Positive* 15
		Other rapid tests 15
Myalgia 4		(Latex agglutination test/Lepto dipstick/ LeptoTek lateral flow/Lepto Tek Dri-Dot test)
Conjunctival suffusion 10		MAT-Single positive in high titer
* Meningism		MAT Rising titer/seroconversion(paired sera) 15
* Myalgia		*Any one of the tests only should be scored 25
Jaundice 1		
Albuminuria/ Nitrogen retention 2		
Hemoptysis/ Dyspnea 2		
Presumptive diagnosis of leptospirosis is made of:		
Part A or Part A and Part B score : 26 or more		
Parts A, B, C (Total) : 25 or more		
A score between 20 and 25 suggests leptospirosis as a possible diagnosis.		

Table2: Complications and investigations

Complications	Investigations
Jaundice	Urine analysis
Acute kidney injury	TC/DC/ESR/Hb/Platelet count
Pulmonary hemorrhage	Sr.bilirubin/SGOT/SGPT
ARDS	Plasma urea, creatinine and electrolytes
Neuroleptospirosis	Chest X-ray
Hypotension	Arterial blood gas(ABG) analysis
Thrombocytopenia	ECG
Myocarditis	Tests for diagnosis of leptospirosis
Ocular complications	
Hypokalemic paralysis	

CONCLUSION^[1]

Utilize modified Faine's criteria for diagnosis of leptospirosis.

- Rapid diagnostic tests are adequate for the diagnosis of leptospirosis.
- Samples may be sent to higher centers with facilities to do MAT, PCR and culture.
- In the first week, diagnosis should be done on the basis of clinical and epidemiological criteria. In the second week, serological diagnostic tests must be done to confirm the diagnosis.

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