Shaping Tomorrow's Nephrology: Insight-Driven Kidney Care
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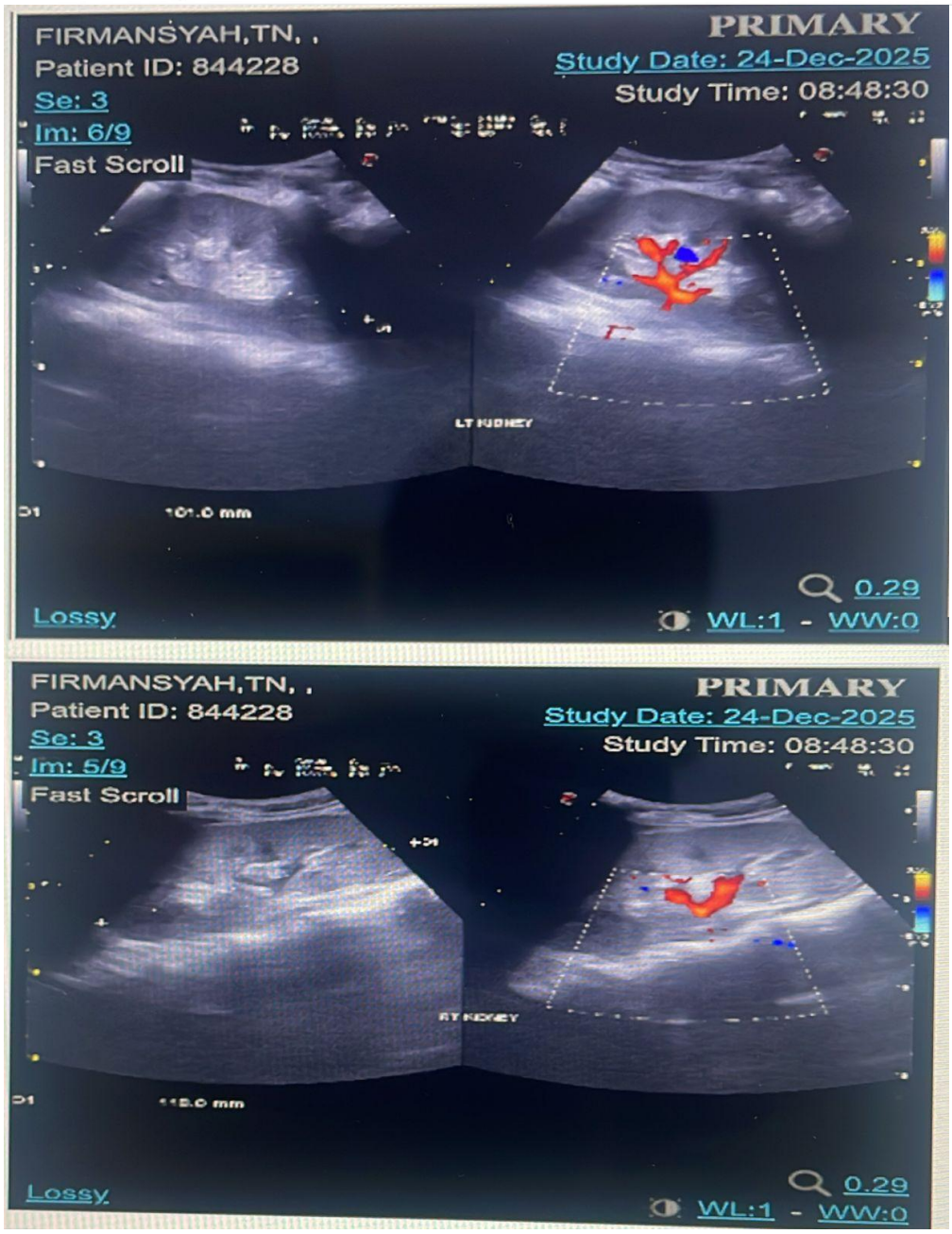
Severe Weils Disease Mimicking Sepsis-Associated Acute Kidney Injury: A Multi-Organ Presentation With Rapid Renal Recovery After Early Recognition

Satrio Sugiharto Machfudi
Department of Internal Medicine-Nephrology, Faculty of Medicine, Airlangga University, Dr. Soetomo General Academic Hospital; Indonesian Navy Central Hospital Dr. Ramelan, Indonesia

Case Study : Weil's disease, the most severe form of leptospirosis, is a potentially fatal cause of acute kidney injury associated with infection in tropical regions. As the initial symptoms may resemble bacterial sepsis, delayed diagnosis often results in preventable organ dysfunction. A 41-year-old man presented with a fever, muscle pain, abdominal discomfort, progressive jaundice and reduced urine output following repeated exposure to flooded environments. Examination revealed icteric sclerae, pale conjunctivae, mild ascites, and tender calf muscles. Laboratory evaluation revealed leukocytosis, anaemia, thrombocytopenia, severe hyperbilirubinaemia, hyponatraemia, and creatinine levels of 12.79 mg/dL, which were markedly elevated. Procalcitonin was also significantly elevated, indicating systemic infection. Serological testing confirmed the presence of reactive IgM anti-Leptospira antibodies. Urinalysis showed haematuria and bacteriuria, while abdominal ultrasonography revealed a fatty liver, minimal ascites, bilateral nephritic changes and cystitis, with no evidence of structural obstruction. The patient was treated with targeted antibiotic therapy, fluid optimisation, electrolyte correction, and supportive metabolic therapy. Renal function, haematological parameters and inflammatory markers improved progressively during the patient's hospitalisation. Severe leptospirosis can present with a complex clinical picture involving hepatic dysfunction, haematological abnormalities, and acute kidney injury. Renal involvement is often the result of tubulointerstitial nephritis and systemic endothelial injury, while inflammatory cytokine activation contributes to septic physiology. Early recognition is essential, as timely antimicrobial therapy and supportive nephrological management can result in significant renal recovery, even in cases of severe initial kidney dysfunction. This case highlights the importance of including leptospirosis in the differential diagnosis of sepsis-associated acute kidney injury in endemic regions. Early diagnostic testing and prompt treatment can prevent irreversible kidney damage and significantly improve patient outcomes.

File Weil's Disease With Acute Kidney Injury.jpeg



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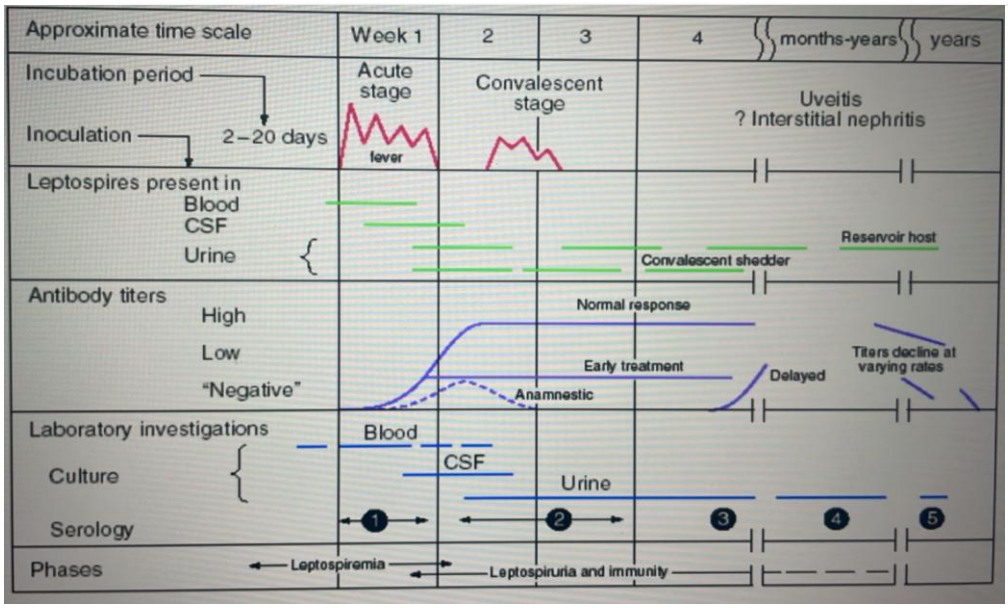
Approximate time scale
Week 1
2
3
4
months-years
years
Incubation period
Inoculation
2–20 days
Acute stage
fever
Convalescent stage
Uveitis
? Interstitial nephritis
Leptospires present in
Blood
CSF
Urine
Reservoir host
Convalescent shedder
Antibody titers
High
Low
"Negative"
Normal response
Early treatment
Delayed
Anamnestic
Titers decline at varying rates
Laboratory investigations
Culture
Serology
Blood
CSF
Urine
1
2
3
4
5
Phases
Leptospiremia
Leptospiruria and immunity