

A STUDY OF TROPICAL FEVER INDUCED AKI IN A TERTIARY CARE CENTRE OF SOUTHERN RAJASTHAN

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Introduction:

Tropical Acute Febrile Illness (TAFI) is characterized by acute febrile syndromes with non-specific symptoms and signs, common in tropical and subtropical regions. TAFI with Acute Kidney Injury

(AKI) is a significant cause of morbidity and mortality. This study aims to evaluate the etiology of TAFI and its association with AKI, staging based on Kidney Disease: Improving Global Outcomes (KDIGO) guidelines, the initiation of Renal Replacement Therapy (RRT), and in-hospital mortality in a tertiary care center in southern Rajasthan.

Methods:

This prospective study was conducted on 350 hospitalized TAFI patients aged over 18 years at a tertiary care center in southern Rajasthan from March 2023- August 2024. Exclusion criteria included patients with nosocomial and chronic infections, single system involvement, chronic kidney disease, and those who were immunocompromised. Data collection involved detailed history, clinical examination, routine blood and urine investigations, and specific tests for malaria, enteric fever, leptospirosis, dengue, rickettsial infections, and chest and abdominal imaging. AKI diagnosis and staging were performed using KDIGO guidelines. RRT initiation and in-hospital mortality were the primary outcomes.

Results:

AKI was observed in 186 (53.1%) patients. The etiology of TAFI in this cohort included vivax malaria (21.5%), leptospirosis (34.7%), dengue fever (28.5%), and falciparum malaria (15.3%). AKI staging revealed that 94 (50.5%) patients were in Stage 1, 58 (31.2%) in Stage 2, and 34 (18.3%) in Stage 3. RRT was initiated in 23 (12.4%) of AKI patients, predominantly in Stage 3 (18 patients, 78.3%). In-hospital mortality was observed in 12 (6.4%) patients, with 10 (83.3%) having AKI most commonly in Stage 3.

Leptospirosis was the leading cause of AKI (34.7%), AKI was present in nearly all patients with leptospirosis, and dengue fever was the most frequent cause of AKI Stage 1.

Conclusions:

In this southern Rajasthan cohort, leptospirosis emerged as the most nephrotoxic tropical febrile illness, leading to the highest rates of severe AKI, RRT initiation, and in-hospital mortality. Early identification and management of AKI, particularly in patients with leptospirosis, are crucial to improving outcomes. The study underscores the importance of a syndromic approach to TAFI, emphasizing early intervention to prevent progression to severe AKI and reduce mortality.

I have no potential conflict of interest to disclose.

I did not use generative AI and AI-assisted technologies in the writing process.

References:

- <https://pubmed.ncbi.nlm.nih.gov/20702532/>
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