

# Evaluating Long-Term Health Outcomes in Children with Mediterranean Spotted Fever after Short-Course Doxycycline Therapy: Insights from the Jordanian Experience - A Prospective Cohort Study

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## ABSTRACT

Mediterranean spotted fever (MSF) is a tick-borne infection caused by *Rickettsia conorii* subspecies *conorii*, transmitted by *Rhipicephalus sanguineus*. While the acute phase of MSF is well-documented, data on its long-term health outcomes in pediatric patients remain limited. This study evaluates the chronic effects of MSF in children from Al-Karak, Jordan, following a short course of doxycycline. This prospective observational study included pediatric patients diagnosed with MSF through ELISA. Follow-ups involved structured questionnaires, physical examinations, and laboratory assessments of inflammatory markers, blood counts, liver enzymes, creatine phosphokinase, creatinine, calcium, and electrolytes. Growth parameters (height, weight, BMI, Z-scores) and clinical outcomes were analyzed. Most participants were from urban areas with frequent exposure to sheep and dogs. Biochemical analyses were generally normal in most cases, except for a few cases with mild elevation of liver enzymes, and coagulation factors. Notably, 76% of cases showed elevated creatine phosphokinase levels. New complaints included asthma, tonsillitis, and otitis media in 6% of patients, while 12% reported recurrent fever and 10% experienced recurrent rash. Growth parameters remained within normal ranges, and school performance was predominantly excellent. Physical examinations showed no significant chronic abnormalities. This study provides new insights into the long-term health outcomes of pediatric MSF patients following a short course of doxycycline. While most findings were favorable, some biochemical deviations and new complaints highlight the importance of continued monitoring. Understanding the chronic effects of MSF can improve long-term patient care and guide future research on the disease's lasting impact.

*Keywords: chronic complications, long-term outcomes, pediatric MSF, Rickettsia conorii, short-course doxycycline*

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