

An Unexpected consequences of severe rhabdomyolysis induced by *Plasmodium vivax*: Acute respiratory failure with preserved renal function

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ABSTRACT

Introduction: We described a case of a previously healthy young man with *Plasmodium Vivax* induced severe rhabdomyolysis with a creatinine kinase (CK) level of 812,000 U/L leading to acute respiratory failure and subsequent weaning failure. Malaria infections with *Plasmodium falciparum* were ruled out by polymerase chain reaction (PCR) and other causes including trauma, heat exhaustion, autoimmune diseases, inflammatory myopathy, drugs, and infections such as leptospirosis and COVID-19 were excluded. **Case report:** He presented with respiratory distress requiring intubation and ventilatory support. There was no heart or lung pathology, fever, metabolic acidosis, anaemia, or drop in consciousness level upon presentation. Extubation was attempted twice during the first week of admission, however, respiratory failure ensued after each attempt requiring reintubation in which one of the episodes was complicated by lung collapse. **Discussion:** The respiratory distress upon presentation and failed extubation episodes were attributed to respiratory muscle weakness secondary to severe rhabdomyolysis. He was successfully extubated after almost two weeks of admission. Despite the extremely high CK level, renal function was unexpectedly preserved without the need for renal replacement therapy. To the best of our knowledge, this is the first reported case of severe rhabdomyolysis induced by *P. vivax* leading to respiratory failure but with preserved renal function. This case highlights that *P. vivax* infection can cause severe rhabdomyolysis and consequently acute respiratory failure due to muscle weakness. Awareness of such complications will guide clinicians' decisions for timely initiation and weaning from mechanical ventilation, hence avoidance of associated complications.