Observational Study

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**Haematological factors and anaemia in acute malaria: A prospective hospital-based cross-sectional observational study**

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**Abstract**

This prospective, observational, cross-sectional study was undertaken to estimate the burden of anaemia in malaria and to evaluate the contribution of haematogenic factors and haemolysis in its pathogenesis. Haematogenic factors (vitamin B12, folic acid, lactate dehydrogenase, ferritin, total iron binding capacity, direct Coombs test) were estimated in patients with malaria at the time of admission. They were categorized as anaemics or non-anaemics and their complications and outcomes were recorded. *P. vivax* (97/112) and *P. falciparum* (13/112) mono-infections dominated; anaemia was seen in 63.3%. Patients with and without anaemia were comparable in terms of haemolysis and the haematogenic factors evaluated. Bleeding events, acute kidney injury and acute liver injury were comparable; however, the need for mechanical ventilation and transfusion of blood products was significantly higher amongst the anaemics. We concluded that haemolysis and presumably transient bone marrow suppression contribute to anaemia in malaria. Pre-existing nutritional deficiencies do not, however, predispose to severe malaria.

**Keywords:**Malaria; anaemia; haemolysis; iron deficiency; vitamin B12 deficiency.