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Endocrine dysfunction in severe Falciparum Malaria

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Still in the second decade of 21st century there is no abatement of malaria. Each year there are about 1 million deaths globally and mostly due to severe falciparum malaria. Severe falciparum malaria causes multi organ dysfunction with different grades of severity that cause death. We postulate that endocrine system might have been affected in malaria influencing the outcome. To study this hypothesis we conducted this research at V.S.S. Medical College, Burla, Odisha, India. We have included 122 patients of severe falciparum malaria. The diagnosis was made with detection of asexual form of P.falciparum from peripheral blood smear. Severe malaria was diagnosed according to the guidelines of World Health Organization. On admission, peripheral blood smears were collected for Giemsa staining and subsequently every 12 hours to assess parasitemia. Blood was collected for estimation of glucose, urea, creatinine, sodium, albumin, bilirubin, AST, ALT, and for complete blood count. We estimated serum cortisol, Parathormone, Vitamin D, Ca, Mg, T3, T4, TSH, Insulin, erythropoietin. Insulin resistance was assessed by HOMA model. The study showed relative deficiency of cortisol ($22.7 \pm 2.4 \mu\text{g/dl}$) and erythropoietin ($262.8 \pm 86.5 \text{ mU/mL}$), low Vit-D ($27.51 \pm 16.25 \text{ ng/ml}$), insensitivity of parathormone inspite of high level ($5.4 \pm 2.8 \text{ pg/ml}$). Serum ionized calcium is low ($1.1 \pm 0.1 \text{ mmol/L}$) and phosphorus was high ($4.5 \pm 2.1 \text{ mg/dl}$). There is high insulin resistance with abnormal thyroid function.

The present study showed that severe falciparum malaria causes multiple endocrine dysfunctions that affect the outcome adversely.

Biography

Manoj Kumar Mohapatra is presently working as Professor and Head, Dept. of Medicine. He has a bright academic career. He has published about 100 publications in reputed journals. For his research in malaria he received 5 National awards by different associations of India and Fellowship by World Health Organization. He has authored a book on Methods in Clinical Research.

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