FACTORS ASSOCIATED WITH CEREBRAL MALARIA

Bipin Adhikari[1], Noppadon Tangpukdee[1], Srivicha Krudsood[2] and Polrat Wilairatana[1]

[1]Department of Clinical Tropical Medicine, [2]Department of Tropical Hygiene, Faculty of Tropical Medicine, Mahidol University, Bangkok, Thailand

Abstract. We conducted a retrospective unmatched case-control study using the medical records of patients admitted to the Hospital for Tropical Diseases, Mahidol University, Bangkok, Thailand to investigate factors associated with cerebral malaria. The records of 137 patients with severe *Plasmodium falciparum* without cerebral malaria and 35 patients with cerebral malaria hospitalized during 1997-2005 were reviewed and compared. Ten factors associated with cerebral malaria were identified: pulmonary edema [odds ratio (OR)= 13.8; 95% confidence interval (CI): 1.3-143.2], splenomegaly (OR=3.7; 95% CI: 1.3-44.7), fever (OR=3.3; 95% CI: 1.7-14.3), day 1 malarial density ≤249,999/ l (OR=1.6; 95% CI: 1.1-14.6), day 2 malarial density ≤249,999/ l (OR=3.4; 95% CI: 1.3-35.1), dyspnea (OR=1.4; 95% CI: 1.2-12.1), hepatomegaly (OR=1.8; 95% CI: 0.2-12.1), being a referred patient (OR=1.3; 95% CI: 1.0-2.2), a higher systolic blood pressure (OR=1.2; 95% CI: 1.0-2.1) and a higher body mass index (OR=1.6; 95% CI: 1.0-2.6). Pulmonary edema was the strongest factor associated with cerebral malaria in our study. Clinicians who treat patients with severe *Plasmodium falciparum* malaria should be aware these factors are associated with cerebral malaria.

Keywords: malaria, cerebral, severe, falciparum

Correspondence: Polrat Wilairatana, Department of Clinical Tropical Medicine, Faculty of Tropical Medicine, Mahidol University, 420/6 Ratchawithi Road, Ratchathewi, Bangkok 10400, Thailand.
E-mail: polrat.wil@mahidol.ac.th