

Abstract

INTRODUCTION: Malaria is a tropical disease causing an estimated 300 million infections and one million deaths per year. In sub-Saharan Africa, most infections are due to *Plasmodium falciparum*. The hallmark of the clinical syndrome of cerebral malaria is coma, and the associated mortality rate, even in appropriately treated patients, is 15 - 50 %. Funduscopy plays a major role for the ophthalmologist in the differential diagnosis because of the characteristic changes. **METHODS:** To date more than 1000 children who satisfied the standard clinical case definition of cerebral malaria were admitted to the Blantyre Malaria Project (Malawi, Africa) for inpatient treatment and examined using indirect ophthalmoscopy through fully dilated pupils. The gender distribution was homogeneous and the children were between 2 and 14 years old. The optic nerve head, central and peripheral retina and central and peripheral vessels were described and photographed using a hand-held fundus camera (KOWA). **RESULTS:** The spectrum and severity of findings of the ocular fundus in children with CM include the following distinct entities: haemorrhages (with and without a white centre), cotton wool spots, papilloedema, retinal whitening and retinal vessel abnormalities that may appear to be orange or white. Most of the retinal haemorrhages (in 40 %) have white centres and resemble Roth spots. Cotton wool spots were seen in only 5 %. Papilloedema was also not commonly seen (8 %) but is a poor prognostic sign. Retinal whitening (in 50 %) is seen more commonly at the posterior pole than in the periphery. 20 % of patients show retinal vessel abnormalities that may be orange or white in colour. **CONCLUSION:** Ocular fundus changes in CM can be detected by the ophthalmologist using simple means and are decisive for the prognosis and timely therapy for this potentially lethal disease.