

Study on protective effects of malaria antibody among the community in malaria endemic areas

Moe Kyaw Myint¹, Khin Lin¹, Aung Thu¹, Mya Moe¹, Phyu Phyu Win¹, Zaw Lin², Kyaw Zin Thant³

¹Department of Medical Research (Upper Myanmar)

²Department of Health

³Department of Medical Research (Lower Myanmar)

Abstract

Malaria antibodies have been associated with transmission intensity and antibody responses are not much varied in seasonal condition. Antibody assessment is probable to provide useful epidemiology tool. This study aimed to detect prevalence of antibody in different risk areas in different seasons. Community based cross-sectional descriptive study was conducted at high risk areas and moderate risk areas during rainy and dry season in 2012-2013. Rapid diagnostic tests were used for examination of antigens and antibodies. Microscopic examinations were done. Among total 414 participants, male were 279(67.4%) and female were 135(32.6%). Mean age was 32.1±14.1 (year). Malaria antigens and antibodies (*P.falciparum*/*P.vivax*) were detected in 17.9%(74) and 19.1%(79) of participants, respectively. All antigen positive cases i.e. 74(17.9%) were microscopically tested with parasitaemia. Participants with age of 20 year and above had more prevalence of antibody than those with under 20 year age ($p=0.040$). Antibody prevalence was higher in participants of high risk areas (20.4%) than participants of moderate risk areas(17.6%). Variation of antibody prevalence between rainy and dry season was less than that of antigen. In high risk areas, antibody was 28.2% in rainy season and 10.4% in dry season. Antigen prevalence had much variation with 36% in rainy season compared to 5.2% in dry season. Similarly, less seasonal variation of antibody between rainy and dry season was observed in moderate risk areas. The study concluded that protective effects of malaria antibody were observed in older age and associated with transmission intensity. Therefore, antibody assessment can probably provide useful epidemiology tool as it has less seasonal variation.