

Comparison of microscopic examination and RDT test for diagnosis of vivax malaria

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Abstract

Malaria is one of the priority health problems in Myanmar. Provision of early diagnosis and appropriate treatment at primary health care setting is one of the National Malaria Control Strategies. Accurate diagnosis of *Plasmodium vivax* is crucial for prompt malaria treatment and surveillance. This study was done to determine the comparison of microscopic examination and Rapid Diagnosis Testing for diagnosis of vivax malaria. Cross-sectional comparative study for detection of *Plasmodium vivax* among clinically suspected malaria patients were done in Naung Cho and Pyin Oo Lwin township from September 2015 to September 2016. After getting informed consent agreement, explaining risks, benefits and procedures of the study, clinically suspected malaria cases were included into the study. Total 544 participants were detected by microscopy examination and rapid diagnostic (SD Bioline, Korea) testing for diagnosis of *Plasmodium vivax* infection. Male were 68.4% and female were 31.6%. Mean (\pm SD) age of patients was 31.2(\pm 11.9). Among them, 465 cases were diagnosed as negative and 79 cases were positive according to RDT. On the other hand, 463 cases were diagnosed as negative and 81 cases were positive according to microscopic examination. The sensitivity of RDT compared to microscopic examination was 96.3%, specificity was 99.3% ($p=0.001$). In conclusion, Rapid Diagnostic Testing could be expected as useful and reliable diagnostic tool in the malaria endemic areas or fields away from laboratory facility. The results of this study also provide partial epidemiological information regarding the prevalence of *Plasmodium vivax* in the regions studied. Moreover, microscopic examination and RDT were useful diagnosis tools for establish optimal malaria diagnosis method.