Transmission study - gametocyte carriers.

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The size, distribution and genetic construction of the gametocyte population are essential parameters for malaria epidemiology. The majority of parasite carriers are asymptomatic in malaria endemic countries. It is important to detect gametocytes at sub-microscopic level to interpret malaria transmission. We detected *Plasmodium falciparum* gametocytes by RT-PCR from asymptomatic carriers in Binh Phuoc province, Vietnam and acute patients in Mae Sod district, northern Thai. The results imply that parasites infecting people should maintain producing ability of gametocytes. Recently, *Plasmodium knowlesi*, monkey malaria parasites, infection has been reported from south Asian countries. We detected *P. knowlesi* both from people and from mosquitoes in Khanh Phu. Those people are frequently entering forest and the mosquitoes are forest breeders. The results indicate that people who work in forest are under the threatening of infection with human and monkey malaria parasites. Infection with these parasites has a tendency to concentrate in a family and an allelic type of gametocytes in such family was identical. On the other hand, monkey malaria parasites cannot be reduced by drug treatment of monkeys. Monkey malaria in man has to be controlled by blocking of transmission than by reducing parasite burden by chemotherapy. We need to trace parasite infection by detecting gametocytes in reservoir monkeys and observing monkey and mosquito behaviors.