

British Society for Parasitology, joint spring & malaria meeting, Nottingham UK, April 3-6, 2005

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The BSP conference is a yearly meeting, hosted this year by the university of Nottingham. The combination of the spring meeting and the malaria meeting allows for scientific discussions with colleagues working on malaria as well as providing a possibility to learn about research in other parasitic diseases. The meeting is set up in a way to promote interaction between junior researchers, senior researchers and professors and was very informative to me. The meeting was divided in 4 simultaneous sessions each day, of which 1 session was on malaria and the other three divided between all parasitic diseases, including an open session on malaria on April 5th in which I presented my research (abstract below). The various sessions provided a quite broad view of research in parasitic diseases from genomics and proteomics to immunity of both hosts and vectors and epidemiology. The interaction between these varying fields of research resulted in interesting discussions.

The plenary lectures on Tuesday afternoon were very interesting; Prof Nick White explained about the pathophysiology of malaria and what progress was made in research about disease symptoms over the last century. This presentation was followed by a lecture on the effects of parasite infections on vector behaviour by Dr. Joanne Webster. The talk focussed on the fact that parasitic infection by schistosomes changes the sexual behaviour of its snail vector and thus affects snail population biology and transmission of schistosomes.

During the conference, I have attended talks on various subjects within malaria, including gene expression, disease surveillance, immunity and drug resistance. Additionally I attended various talks of the spring meeting focusing on epidemiology of parasitic diseases, gene expression and transmission. Both the malaria talks and the talks in the spring meeting were very informative and I will be able to include much of the new insights into my own research. However, the most interesting part of the meeting for me were two sessions within the spring meeting: the first one on co-infections where researchers working on several parasitic diseases (ranging from malaria to schistosomes and intestinal worms) presented their work on co-infections, the results on epidemiology, disease severity and immunity. The second was a session on parasite life histories, again in various organisms but focusing on interspecific interactions. During my work of the last two years I have become more and more interested in these aspects of parasite development, the evolutionary and ecological aspects of parasite development, in-host parasite dynamics and its epidemiological implications. These two interesting sessions in the spring meeting as well as the other talks I attended will provide a more steady basis for my future research.

In my oral presentation I have introduced a technique for quantifying gametocytes in blood samples that we developed in the lab in Nijmegen, combined with the first field data collected and analysed by this method. Even though the presentation was planned in the spring meeting open malaria session, many malaria researchers came to see the presentation and reactions were enthusiastic. Additionally to the direct response on my own research, the presentation and discussions afterwards will probably lead to future collaborations with other researchers who want to use the technique in their research.

Abstract oral presentation

P. FALCIPARUM TRANSMISSION, THE GAMETOCYTE DYNAMICS WE COULD NOT SEE BEFORE

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A recently developed real-time quantitative nucleic acid sequence based amplification assay (QT-NASBA) for quantification of *Plasmodium falciparum* gametocytes was used during a drug efficacy study in Western Kenya. Children aged 0.5-10 years with uncomplicated *P. falciparum* malaria were treated with either sulfadoxine-pyrimethamine (SP) or SP+artesunate and followed-up for 4 weeks; 119 children completing the follow-up were included in this analysis. The extremely sensitive QT-NASBA (detection limit 10-100 gametocytes/ ml blood) revealed previously unknown low-density gametocyte dynamics.

Gametocyte prevalence at the day of treatment was much higher than expected with 85% (QT-NASBA), compared to 24% by microscopy. In total, 97% of the children had gametocytes during the study and 33% had gametocytes at all sampling points during follow-up. The almost universal presence of gametocytes raises serious questions about our current knowledge of the infectious reservoir. The implications of such high gametocyte prevalences and their relation to transmission of the disease need further investigation.