"New Wine in old Bottles & Old Wine in new Bottles"

Past, present and future use of antimalarial and other drugs in the control of malaria: Applications, challenges & dilemmas

We are pleased to invite you to the Centre for Medical Parasitology Global Excellence Anniversary symposium.

Venue: Copenhagen, October 16-18, 2019.

Registration (no fee) and abstract submission opens: July 1st 2019,

https://cmp.ku.dk/news_events/events/20191016/

Antimalarial drugs have played a prominent role in the management of malaria cases as well as for malaria control for several hundred years. The first effective antimalarial drugs such as quinine and artemisinin compounds came from the plant kingdom. During the 20th Century the first pharmaceutical drugs appeared; 4-aminoquinolones (chloroquine), 8-aminoquinolines (primaquine, arylaminoalcohols (quinidine, halofantrine, mefloquine) followed by antimetabolites such as proguanil, pyrimethamine, sulfadoxine, dapsone as well as antibiotics (tetracyclines and others) and finally the artemisinin based combination therapies (ACT).

As the first malaria eradication campaign in the 1950-60 failed in sub-Saharan Africa, the use of drugs in case management became more and more important as tools to contain the malaria scourge. This led to indiscriminate use of chloroquine for any fever and enhanced the development of chloroquine resistance in especially *Plasmodium falciparum.* Drug resistance has since then developed against almost every new antimalarial drug and now even threaten the ACTs.

Diagnostics using malaria Rapid Diagnostic Tests (mRDT) moved the diagnosis from presumption and microscopy to bed site diagnosis and appropriate use of antimalarials. However, the amount of "fever" remained much the same and has led to new dilemmas, indiscriminate use of antibiotics and opened a Pandora' box of new resistance and diagnostic problems.

There has been several attempts to re-think the use of antimalarials in terms of intermittent chemoprevention for high-risk groups such as pregnant women, infants, children below the age of 5 and schoolchildren. Mass Drug Administration (MDA) to speed up elimination in low prevalence areas has evolved as a strategy to eliminate malaria fast enough to mitigate against drug resistance. Seasonal chemoprevention is an intervention increasingly implemented across Sahel countries.

Additionally, alternative use of non-antimalarial drugs is increasingly being researched as well as alternative ways of use of existing antimalarials e.g. ivermectin killing mosquitoes and atovaquone on bed nets targeting mosquitoes. New ways of using old drugs, e.g. different dose regimens and drug combinations are currently under investigation and new platforms for drug resistance surveillance emerge. At the same time, there is a growing interest in the importance of socio-economic, cultural factors and health system issues for proper delivery of antimalarial drug interventions and their acceptability among consumers.

The aim of the symposium is to discuss old and new ways of applying the tools we have and new ideas for malaria control that would mitigate against the rapid development of drug resistance in a context of no highly effective vaccine being available yet.

For questions, please contact Conference Coordinator Helle Hansson, hellehan@sund.ku.dk