



E D C T P

Senior Fellowship 2004

Public Health Benefit of Artemisinin based combination therapies for uncomplicated Malaria

Artemisinin-based combination therapies (ACTs) are the current best treatments available for malaria. However, beyond absolute drug efficacy, it is necessary to evaluate the overall public health impact of the different ACTs in Africa. We are conducting a randomised controlled trial in Mali. Patients with uncomplicated malaria are randomised to receive AS/AQ (Arsucam® from Sanofi Synthelabo), AS/SP or AR-L (Coartem®, Novartis). Once subjects have been assigned to a given group, subsequent malaria episodes are re-treated with that same treatment regimen.



Dr Abdoulaye Djimde, project coordinator

Background

The spread of malaria parasites resistant to safe and affordable drugs is greatly hampering the control of malaria in Africa. As a consequence, sub-Saharan African countries including Mali are adopting artemisinin-based combinations (ACT) as first line anti-malarial therapy.

Reports suggest that efficacy measured at Day 14 or 28 may not adequately reflect the true public health impact of a treatment regimen. Therefore, it is important to assess the safety and overall public health impact of the repetitive administration of these new combinations in the African context.

Objectives

We will assess the public health benefit of the use of ACTs in sub-Saharan Africa. Specific objectives are:

1. To test the hypothesis that repeated administration of AS/AQ, AS/SP and AR-L

for the treatment of consecutive episodes of uncomplicated malaria reduces the incidence of uncomplicated falciparum malaria and malaria attributable anemia

2. To measure the impact of the repeated administration of AS/AQ, AS/SP and AR-L on antimalarial immunity and malaria transmission.

Primary endpoint will be the incidence density of uncomplicated malaria over two years. Secondary end points will be incidence of anemia in each arm, impact on gametocyte carriage and transmissibility, clinical and biological tolerance. Patients are closely followed both clinically and biologically to record any adverse event. Training and capacity building activities are fostering the emergence of a new research

team of young Malian scientists.

Methods

Since June 2005 we are conducting a randomized controlled trial in Bougoula-Hameau, an area where malaria is hyper-endemic with seasonal transmission in Southern Mali.

All the three ACTs (AS/AQ, AS/SP and AR-L) were highly efficacious in treating malaria in Mali

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Project at a glance

Official title

ACTBENEF

Official title

Assessment of the Public Health Benefit of Artemisinin based combination therapies for uncomplicated Malaria treatment in Mali

Project Coordinator

Abdoulaye Djimde, Mali
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Participants

- Ogobara Doumbo, Mali
- Fofana Bakari, Mali
- Sidibe Bakary, Mali
- Dembele Demba, Mali
- Toure Sekou, Mali
- Sagara Issaka, Mali
- Togo Amadou, Mali

Total budget

€ 275,000

EDCTP budget

€ 200,000

Project duration

24 months

Start date

01 January 2004

End date

31 December 2006



Doctors and patients at the clinic in Mali

Preliminary results

To date we have enrolled 973 episodes of uncomplicated malaria in the three arms. All treatments were highly efficacious. The majority of patients experienced one episode but in just the first year of follow-up some children have already experienced their fifth episode of malaria. There was no significant difference in the frequency of clinical episodes between the three arms. Direct feeding experiments suggest that ACT treatments do not decrease the infectivity of gametocytes to the vector.

Perspectives

We will extend the follow-up to a second year before final analyses.



Project scientists dissecting mosquitos



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Supported by the EU DG Research

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