

To compare the response of children with sickle cell disease (SCD) and malaria to artemisinin combination therapy (ACT) antimalarials and the response of children without SCD treated with ACT for malaria

Submission date 25/09/2013	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered
		<input type="checkbox"/> Protocol
Registration date 02/10/2013	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan
		<input checked="" type="checkbox"/> Results
Last Edited 23/09/2014	Condition category Infections and Infestations	<input type="checkbox"/> Individual participant data

Plain English summary of protocol

Background and study aims

Although there has been a general improvement in the availability of treatment for malaria, information on how currently recommended drugs work on patients with sickle cell disease (SCD) is unavailable. This study will provide some evidence and tell us whether current doses for treating malaria in SCD patients (which are the same for patients without SCD) may be appropriate.

Who can participate?

Children with SCD aged 6 months to 12 years, and children without SCD, with uncomplicated malaria can participate in the study.

What does the study involve?

All children will have a blood test for malaria and any other test that would be deemed necessary for treatment by the doctor. Children with a confirmed diagnosis of malaria will be randomly allocated to one of two treatments: artesunate-amodiaquine or artemether-lumefantrine. Recruited children will attend follow-up visits so that doctors will check if they are recovering and how quickly, whether the malarial parasites are being cleared from their blood, and whether any initially cleared parasites will recur. The follow-up visits are also for the purpose of checking for possible side effects of the treatment. There will be at least eight follow-up visits. Children who do not recover as expected will be given alternative medications. On days 1 and 2, only a finger prick blood test will be done to check for the presence of parasites. On days 3, 7, 14, 28, 35 and 42, a small amount of blood (about a teaspoonful) will be taken to find out the state of certain components of the blood in addition to a parasite check.

What are the possible benefits and risks of participation?

There will be no direct financial benefits. Participation will allow investigators to find out if

children with SCD show a similar response to treatment as children without SCD. However, the child will be watched closely for a period of six weeks during which any illness could be promptly diagnosed and treated without any additional costs. No direct incentives will be provided, although all treatment and laboratory costs during the period will be borne by the study, and all transport costs for the follow-up visits will be reimbursed. The volume of blood collected is small and similar to what is normally collected during similar illness, and is unlikely to affect the health of the participant. As with any drug, there is a small risk that participants may experience certain side effects associated with the use of these medicines. However, these drugs have been shown to be safe in children without SCD and the purpose of the follow-up visits is to find out if this is so in SCD patients. In addition, the investigators will be monitoring for these potential effects during the follow-up visits and would act appropriately should these occur.

Where is the study run from?

The study is run from Paediatric Sickle Cell Clinic and Emergency Department of the Department of Child Health, Korle Bu Teaching Hospital (Ghana) and Outpatients Department of the Polyclinic, Korle Bu Teaching Hospital (Ghana).

When is the study starting?

The study started in January 2011 and ended in December 2012.

Who is funding the study?

The study is funded by the Consultative Council for Development Research of Denmark, through the DANIDA Fellowship Centre, Denmark.

Who is the main contact?

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Contact information

Type(s)

Scientific

Contact name

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Additional identifiers

EudraCT/CTIS number

IRAS number

ClinicalTrials.gov number

Secondary identifying numbers

N/A

Study information

Scientific Title

Artesunate-amodiaquine versus artemether-lumefantrine for uncomplicated malaria treatment in children with or without sickle cell disease: a randomized efficacy and safety trial

Study objectives

1. The response to malaria treatment with artemisinin combination therapies in children with sickle cell disease is different from children without sickle cell disease.
2. The haematological profile of children with sickle cell disease treated with artesunate-amodiaquine is different from that of children treated with artemether-lumefantrine.

Ethics approval required

Old ethics approval format

Ethics approval(s)

Ethics and Protocol Review Committee, University of Ghana Medical School; Ref: MS-Et/M.1-P.5.4

Study design

Open label randomized clinical trial

Primary study design

Interventional

Secondary study design

Randomised controlled trial

Study setting(s)

Hospital

Study type(s)

Treatment

Participant information sheet

Not available in web format, please use the contact details below to request a patient information sheet

Health condition(s) or problem(s) studied

Sickle cell disease/malaria

Interventions

1. Artesunate-amodiaquine (Coarsucam®, Sanofi Aventis, France) - 25/50/100mg artesunate and 67.5/135/270mg amodiaquine, single daily dose, administered for three days according to body weight: 4.5-9kg (25mg/67.5mg), 1 tablet/dose; 9-18kg (50mg/135mg), 1 tablet/dose; 18-36kg (100mg/270mg), 1 tablet/dose; 36kg and over (100mg/270mg), 2 tablets/dose

2. Artemether-lumefantrine (Coartem®, Novartis Pharma AG, Basel, Switzerland) - 20mg artemether and 120mg lumefantrine administered at 0 and 8 hours on the first day, and then twice daily for two subsequent days according to body weight: 5-14kg, one tablet/dose; 15-24kg, 2 tablets/dose; 25-34kg, 3 tablets/dose; 35kg and over, 4 tablets/dose

Intervention Type

Drug

Phase

Not Applicable

Drug/device/biological/vaccine name(s)

Artesunate-amodiaquine, artemether-lumefantrine

Primary outcome measure

1. Parasite clearance rates in the initial 48 hours of treatment: survival analysis
2. Parasite reduction ratio on days 1, 2, and 3: the ratio of the parasite count before treatment to the parasite count on days 1, 2, and 3

Secondary outcome measures

1. Cure rates as determined by PCR-corrected adequate clinical and parasitological response (ACPR): the proportion of patients with ACPR on days 28 and 42
2. Parasitological response on days 28 and 42: any recurrence of parasitaemia after initial clearance till day 28 or 42
3. Changes in haematological profiles during the follow-up period: changes from baseline (day 0) in the following parameters: haemoglobin (Hb), total white blood cell count (WBC), absolute neutrophil count (ANC) and platelet counts (PLT) on days 3, 7, 28, and 42
4. Incidence of adverse events: incidence of new or treatment-emergent adverse events on days 3, 7, 28 and 42

Overall study start date

04/01/2011

Completion date

31/12/2012

Eligibility

Key inclusion criteria

1. Children with SCD
2. Aged 6 months to 12 years
3. With acute *P. falciparum* malaria of parasite density < 200,000/μl
4. Consent obtained and willingness by parent or guardian to comply with the follow-up schedule

Participant type(s)

Patient

Age group

Child

Lower age limit

6 Months

Upper age limit

12 Years

Sex

Both

Target number of participants

120 (60 SCD and 60 non-SCD)

Key exclusion criteria

1. Symptoms or signs of severe malaria requiring parenteral treatment
2. Weight less than 5 kg
3. Presence of danger signs of malaria
4. Known intolerance or allergy to study medications
5. Reported treatment with any of the study drugs one month preceding enrolment
6. Blood transfusion preceding 3 months before enrolment

Date of first enrolment

04/01/2011

Date of final enrolment

31/12/2012

Locations

Countries of recruitment

Ghana

Study participating centre

Centre for Tropical Clinical Pharmacology & Therapeutics

Accra

Ghana

KB

Sponsor information

Organisation

Danida Fellowship Centre (Denmark)

Sponsor details

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Sponsor type

Research organisation

Website

<http://www.dfcentre.com>

ROR

<https://ror.org/05qvpbw57>

Funder(s)

Funder type

Research organisation

Funder Name

Consultative Research Committee for Development Research (Denmark) (FFU)/Danida Fellowship Centre, (DFC project no. 09-080RH)

Results and Publications

Publication and dissemination plan

Not provided at time of registration

Intention to publish date

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Not provided at time of registration

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	19/09/2014		Yes	No

