

From Buruli anti-mycobacterial treatment to Ulcer wound healing - A prospective evaluation of clinical and laboratory parameters to distinguish mycobacterial disease, paradoxical reaction and secondary bacterial infection for targeted treatment (extension)

Initiative: Wissen für morgen – Kooperative Forschungsvorhaben im subsaharischen Afrika (beendet)

Ausschreibung: Tropical Medicine 2004

Bewilligung: 04.12.2013

Laufzeit: 2 Jahre

In the first phase we have successfully explored the use of an innovative heat application system to treat *Mycobacterium ulcerans* disease in a proof-of-principle study, confirmed the efficacy of heat treatment at the primary endpoint (six months after heat treatment) in a large GCP-conform trial, and studied the treatment-induced microbiological, histopathological and immunological evolution of BU lesions of relevance for the understanding of wound healing processes and clinical BU treatment management. We found strikingly heterogeneous treatment responses of BU lesions. Based on our standardized clinical observation and documentation and extensive laboratory work-up of the patients enrolled in the heat treatment trial we can now understand the determinants of heterogeneous treatment responses of BU lesions better. Disturbance of wound healing may be related to: (1) *M. ulcerans* activity, (2) *M. ulcerans*-host interactions (so called paradoxical reaction) and (3) secondary bacterial infection. The investigation of these often co-existing processes contributes to the clarification of unresolved principle questions such as the nature of immune protection against *M. ulcerans* disease after successful treatment and the resolution of the mycolactone-induced local immunosuppression during therapy. The project now aims to improve our ability to define clinical, microbiological, cell biological and immunological features that influence progression of BU lesions to wound healing and tissue repair. To achieve this, we will analyze in-depth the large clinical and laboratory dataset of our clinical trial and prospectively study markers of wound healing and their ability to predict clinical outcome in a cohort of BU patients in Ghana. In addition, we will complete the heat treatment trial with the assessment of the relapse rate at month 24 after completion of heat treatment as well as the secondary endpoints and establish a modular reference data base for BU patients.

Projektbeteiligte

Prof. Dr. Thomas Junghanss

Universitätsklinikum Heidelberg

Zentrum für Infektiologie

Sektion Klinische Tropenmedizin

Heidelberg

Dr. Alphonse Um Boock

FAIRMED

Bureau Regional pour l'Afrique

Yaoundé

Kamerun (Cameroun)

Dr. Dorothy Yeboah-Manu

University of Ghana

Noguchi Memorial Institute for Medical Research

Legon

Ghana

Dr. Ernestina Mensah-Quainoo

Ghana Health Service

Municipal Health Directorate

Tema

Ghana

Prof. Dr. Gerd Pluschke

Swiss Tropical and Public Health

Institute TPH

Molecular Immunology Unit

Basel

Schweiz