

## Editorial

# Buruli Ulcer

Tazoacha Asonganyi  
*Editor-in-Chief.*

Buruli ulcer (BU) is estimated to be the third most common mycobacterial infection in the world after tuberculosis and leprosy. It is named after an area of Uganda which was the site of many cases in the 1960s. An estimated 7,000 cases of Buruli ulcer are reported annually, with more than 4,000 cases from sub-Saharan Africa. Cameroon is one of thirteen countries in Africa endemic for Buruli ulcer. Because of this, a total of 6 reference laboratories have been set up in Abidjan, Cotonou, Bangui, Kinshasa, Kumasi and Yaoundé since 2008, to confirm Buruli ulcer disease using PCR techniques.

Buruli ulcer control activities in Cameroon have been under way for over 10 years now. The activities are the outcome of cooperation between the Ministry of Health and two supporting organizations: Aide aux Lépreux Emmaüs-Suisse (ALES) and Médecins sans Frontières (MSF). These activities concern case management (detection, treatment, monitoring of patients), on-the-job personnel training, and the creation and equipping of structures.

Buruli ulcer is a disease of the skin caused by *Mycobacterium ulcerans*, a bacterium related to those that cause tuberculosis and leprosy. It is largely a neglected problem of the poor in remote rural areas. The disease is characterised by long-lasting, hard-to-heal skin lesions which, in serious cases, can lead to amputation and deformities. Limited awareness of the disease within the medical community and the general public, results in under-recognition and underreporting. BU usually begins with a painless nodule or papule in the skin, which, if left untreated, leads to massive skin ulceration.

Researchers believe that Buruli ulcer is acquired through exposure to the environment, particularly through contact with slow-moving or stagnant bodies of water. However, the exact source of *M. ulcerans* and the mode of transmission remain elusive. Research findings that *M. ulcerans* can be isolated from water insects in endemic areas and can replicate in the salivary glands of these insects may contribute to the understanding of the ecology of *M. ulcerans*. These studies from Australia and Cameroon suggest that a type of mosquito may be a vector; if confirmed, Buruli ulcer will be the only known mycobacterial disease to be transmitted by insects.

Risk factors identified by a community-matched study (including 163 pairs) in Cameroon were: low level of education, swamp wading, wearing short-lower-body clothing while farming, living near a cocoa plantation or woods, using adhesive bandages when hurt, and using mosquito coils. Protective factors were: using bed nets, washing clothes, and using leaves as

traditional treatment or rubbing alcohol when hurt. The family-matched study (including 118 pairs) corroborated the significance of education level, use of bed nets, and treatment with leaves.

In general, BU occurs near slow-flowing water bodies, ponds, swamps and lakes. All ages and sexes are usually affected, but most patients are under 15 years of age. Any part of the body is usually affected but in about 90% of cases the lesions are on the limbs, with nearly 60% of all lesions on the lower limbs. The disease usually leads to massive destruction of the skin, often followed by debilitating deformities. It is associated with nonspecific clinical manifestations and has a slow course, with a resultant delay by those affected in seeking care until there is massive skin necrosis requiring extensive surgery and prolonged hospitalization.

Since 2004, effectiveness of specific antibiotics was confirmed and WHO recommended a combined antibiotic treatment (rifampicin and streptomycin) for BU case management complemented or not with surgery and care for the prevention of disabilities. Leprosy Relief Emmaüs-Suisse, in close collaboration with Cameroon's Ministry of Health, has taken steps towards decentralisation of treatment, consisting of the early detection of the disease at the community level and antibiotic treatment at local health centres to reduce hospitalisation time.

A single bacille Calmette-Guérin (BCG) vaccination given in infancy can induce protective immunity which lasts for six months, or can delay the onset of lesions. In addition, recent evidence suggests that BCG may confer some protection against disseminated *M. ulcerans* disease, including bone infection.

The World Health Organisation (WHO) has recognised Buruli ulcer as an emerging public health threat, and has established the *Global Buruli Ulcer Initiative (GBUI)* to coordinate control and research efforts world-wide. As part of the GBUI, a Buruli Ulcer Advisory Committee was established in 1998 to guide the Organization's work. At a conference organized in Yamoussoukro, Côte d'Ivoire from 6 to 8 July 1998 by WHO, representatives from more than 20 countries signed the Yamoussoukro Declaration on Buruli Ulcer as a pledge to control the disease.

*Health Sciences and Disease* warmly thanks Aide aux Lépreux Emmaüs-Suisse (ALES) and Médecins sans Frontières (MSF) for their tremendous help towards the elimination of BU in Cameroon. We encourage them to redouble their efforts in case detection, treatment, and monitoring of patients, the best approach to eliminate the disease.