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FONDATION **MEREDITH**
pour
le développement de la chirurgie reconstructive et réparatrice
en Afrique de l'ouest

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TITLE: Buruli Ulcer of the upper extremity: beyond aesthetics

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Buruli ulcer (**BU**) is like a bacteriological anti personnel mine: it maims but does not kill. The disabilities not only affect the patients, mostly children, but the family and are a heavy burden on society.

This infection by *Mycobacterium ulcerans* (**Mu**) has been recognised as an emerging endemic disease by the WHO since 1998. It is the 3rd most frequent illness caused by mycobacteria after tuberculosis and leprosy and is 100 times more frequent than Noma. **Mu** is found in slow moving and stagnant waters, mainly in West Africa but also in other tropical environments. The water flea and the mosquito have already been identified as vectors.

Mu releases a toxin, myolactone, which is cytotoxic for keratinocytes, fibroblasts, adipocytes and muscle cells. This attack causes painless nodular subcutaneous lesions which rapidly ulcerate with wide and deep underlying tissue damage.

In the Ivory Coast 70 % of patients are under 20 years of age and half of these are children. The upper extremity is infected in 75 % of cases. Although the early stages of the disease can easily be controlled by antibiotic therapy and simple surgical excision, 64 % of patients present with large ulcers. Other than the skin defect, the extended tissue trauma leads to muscle fibrosis and contracture, septic arthritis and sclerosis of growth cartilage.

Complex sequellae result in the impotence of prehension. This is mostly influenced by wrist position and pinch grip, and to a lesser extent by elbow and shoulder mobility. Extension and flexion wrist contractures hinder the pinch grip so wrist correction is paramount to restoring function. The poor vascularisation compromises wound healing thus not favouring tendon lengthening or en bloc muscle displacement procedures. For the wrist we have decided to shorten the skeleton by 1st row carpectomy, which allows adequate axis correction, and the soft tissue defect in extension deformities is corrected by flap coverage. These may be local pedicled flaps, but the groin flap is most commonly used. Latero-thoracic and latissimus dorsi flaps are used for elbow and shoulder corrections respectively.

In the Ivory Coast, one of the major endemic countries, the number of cumulated cases of **BU** since 1998 is about 25'000. Of these about 10'000 have sequellae. About 80 cases of reconstructions have been done at the "Institut de Chirurgie Réparatrice" (*ICR*) in Abidjan since 2004, and examples shall be shown.

The aim is functional correction to allow physical independence and restore personal dignity: the "inner beauty".

