EDITORIAL

THE PROBLEM OF BURULI ULCER IN GHANA

Aspects of epidemiology, clinical presentation and treatment of Buruli ulcer in Ghana have been described in detail in three articles appearing in this issue of the Ghana Medical Journal. This editorial comment parts of which appeared in an earlier GMA Newsletter dwells on certain aspects of the known epidemiology and pathogenesis relevant to the implementation of preventive measures which must be the ultimate aim of the co-operation of the medical profession, the government and the people of Ghana.

Buruli ulcer in Ghana is a disease of swampy environmentally substandard but heavily populated rural habitats. It is caused by Mycobacterium ulcerans. The disease starts as a non descript painless nodule which soon ulcerates and enlarges rapidly to produce superficial ulcers with necrotic floors and deeply undermined edges in the exposed parts of children and young adults of both sexes. Secondary infection of necrotic tissue leads to involvement of deeper tissue. When healing eventually occurs the resultant scar tissue produces contractures associated with disfigurement and loss of function of limbs. The general impression is that mortality rate associated with the disease is low but morbidity is high in that the adverse social consequences on patients is devastating, the young adult loses out in school/employment, while the disease is active, and ends up with disfigurement, disability and permanent loss of employment when the disease remains unattended to and allowed to run its natural course.

Diagnosis is a problem only when health workers in virgin areas are unaware of the disease. Once they become aware clinical diagnosis is feasible and confirmation of diagnosis is easily achieved by histological examination of biopsied material: Zielhl-Neelsen stain renders the acid fast bacilli (AFB), the causative agent, clearly visible in conspicuously large numbers.

The pertinent problems posed by this disease revolve around two issues. Firstly, search for correct preventive measures, a task rendered difficult and at best speculative by the lack of knowledge of the exact mode of transmission. Secondly the need to find effective treatment against an organism which attacks superficial tissues with minimal reaction thus making it virtually inaccessible to systemically administered anti-tuberculous drugs. Several theories have been proposed as regards transmission. The young age groups predominantly affected, the

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tendency to occur in clusters, and the unhealthy swampy environment in which the disease seems to thrive have led to the conclusion that the organisms perhaps live in the soil as saprophytes, and children and young adults with poor personal hygiene coming into contact with contaminated soil and vegetation following minor trauma were inoculated through the skin. The possibility that it is a droplet infection like tuberculosis or leprosy with organisms eventually settling in the skin, the coldest part of the body, has also been raised but there is no proof. The possibility of transmission by insect bites is also dismissible on the ground that to date the pathogen has not been found in the stomach or salivary glands of any human biting insect.

While the question of the exact mode of transmission remains unsettled it is difficult to formulate clear-cut preventive measures. BCG as a possible preventive measure has been critically examined by several workers and the consensus is that BCG probably affords a certain measure of protection, exactly how much protection and for how long remain unknown. The consensus of the medical profession in Ghana is that the substandard swampy environment in which the disease thrives must be tackled regardless of the prohibitive cost of the engineering works which will be involved. The profession is aware that it is in the same type of environment that other serious water borne diseases such as schistosomiasis and dracunculiasis thrive. It is the responsibility of central and local government to provide funds, expertise and plans for the improvement of our environment. Potable pipe-borne water in adequate amounts, good drainage systems, modern methods of waste and sewerage disposal, well planned and well executed housing estates are some of the engineering projects which will help prevent diseases like Buruli ulcer. These must needs be long term projects; for now and in the interim a crash programme must be instituted to treat all cases effectively in order to alleviate unnecessary distress and also reduce the load of M. ulcerans which is known to exist only in human beings.

The antituberculous drugs including rifampicin are to date the mainstay of systemic therapy. Whether or not they have made substantial impact on the outcome of the disease especially in the treatment of advanced cases is still controversial. Nevertheless all workers in the field agree that adequate doses of anti-tuberculous drugs must be given for relatively long periods. Wide surgical excision of lesions is the only mode of treatment which has to date yielded satisfactory results; in that when the disease was diagnosed early, wide surgical excision followed by skin grafting produced a cure. However in the advanced cases even surgery of the type described above has been haunted with grossly unacceptable results. Other forms of treatment including local heat and topical anti-tuberculous drugs have not been sufficiently explored to merit assessment.