

Chapter 1

Introduction

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In December 1997, on the occasion of his visit to Côte d'Ivoire, the then Director-General of the World Health Organization (WHO), Dr Hiroshi Nakajima, announced the deployment of a coalition of international efforts against Buruli ulcer (1). As a result, an ad hoc Task Force on Buruli ulcer specially set up by the WHO met for the first time in February 1998 to review the current knowledge of the disease and propose a plan of action for the effective treatment and control of and research on Buruli ulcer. The recommendations of the Task Force and its proposed plan of work are set out in Annex 1.

Buruli ulcer has emerged in recent times as an increasingly important cause of human morbidity around the world, partly due to environmental changes. In Australia, the disease is commonly referred to as Bairnsdale ulcer. The name Buruli ulcer originated from the district of Buruli in Uganda, where the first large numbers of cases were reported in the late 1960s and early 1970s. In recent years, increasing numbers of cases have been reported from West Africa [(Benin (2–4), Burkina Faso (5), Côte d'Ivoire (6, 7, Kanga JM, unpublished data, 1998), Ghana (8–10), Guinea (Sagno M, Portaels F, unpublished data, 1995), Liberia (11, 12) and Togo (13, Tignokpa N, Priuli GB, unpublished data, 1998)] and from Australia (14, 15). In addition to actual numbers of cases, there has also been increasing geographical spread of the disease within these countries.

Clinical features and treatment

Buruli ulcer starts as a painless, often itchy, nodule or papule in the skin, which is often ignored by the patient. Because of the indolent nature of the disease, there is substantial delay in seeking care. This nodule, if left untreated, often leads to massive skin ulceration followed by debilitating complications, including contracture deformities, amputation of limbs and loss of organs such as the eye, breast and genitalia. A few cases of death from sepsis, tetanus and haemorrhage have been reported. Increasing numbers of bone infections are also being reported and these could complicate the management of cases. These bone infections may be the results of direct spread from the overlying skin lesion or may support the hypothesis of a haematogenous spread. The destruction of the tissues is caused by a toxin produced by the organism, and the exact chemical nature of putative toxins has recently been determined (16, 17). Surgery is the current treatment of choice, but adequate surgical facilities are rarely available in most endemic areas in the developing world. Consequently, hospitalization is usually prolonged, averaging 3 months per patient, but may be as long as 18 months or more. Unfortunately, treatment with antibiotics has been disappointing. Further research on drug efficacy is needed, especially in view of the problems of infections associated with surgical treatment.

Implications for society and the health services

With an increasing number of cases and the complications currently associated with the disease, the long-term socioeconomic impact of Buruli ulcer on the rural economy could be substantial (10). Because treatment is surgical, the disease could seriously undermine the efficient use of scarce health care resources in the endemic countries. Complicated cases require prolonged hospitalization and consume a large measure of resources compared with some other diseases. Clearly, early diagnosis and better treatment reduces some of the complications of the disease.

Historical overview

After tuberculosis and leprosy, Buruli ulcer is the third most common mycobacterial disease in immunocompetent humans (13). The causative organism was first described by MacCallum, who discovered acid-fast bacilli in a biopsy from a leg ulcer in a young child from Bairnsdale, Australia in 1940, and published the first clinical description of this new mycobacterial infection in 1948 (18). Before 1948, the disease was already known in Africa. Large ulcers, almost certainly caused by *M. ulcerans*, were described by Sir Robert Cook in 1897. During the years 1923 to 1935, Kleinschmidt, a missionary physician in north-east Congo, observed undermined skin lesions rich in acid-fast bacilli (19).

In Africa, the history of Buruli ulcer can be divided into two main periods: before 1980 and after 1980 (see Fig. 1). There were many important publications before 1980 on the disease in several African countries: Cameroon, the Democratic Republic of the Congo, Gabon, Ghana, Nigeria and Uganda. In the Central African Republic, Kenya, Sudan, and the United Republic of Tanzania, cases were suspected but never confirmed. The most significant contributions came from the Democratic Republic of the Congo and Uganda. The Uganda Buruli Group studied the clinicopathological and epidemiological aspects of the disease extensively, and opted for the term “Buruli ulcer” because large numbers of cases were first detected in the district of Buruli near lake Kyoga (20). The data were extensively described in several review articles (21–23). The information on Buruli ulcer in the Democratic Republic of Congo was summarized by Janssens in 1972 (21) and by Meyers in 1974 (19).

After 1980, new foci of Buruli ulcer emerged in West Africa. A dramatic increase in the incidence of the disease is now reported in several West African countries, especially in Benin, Côte d’Ivoire and Ghana. New foci were recently discovered in Angola (24), Burkina Faso (5), Guinea (Sagno, M, Portaels F, unpublished data, 1995) and Togo (13, Tignokpa N, Priuli GB, unpublished data, 1998).

The Yamoussoukro Conference and the future of Buruli ulcer control and research

In view of the growing spread and impact and the general lack of awareness of Buruli ulcer, WHO in collaboration with the Government of Côte d'Ivoire, the Sasakawa Memorial Health Foundation in Japan, the Association Française Raoul Follereau, the Damien Foundation, Belgium, and the Humanitarian Aid Relief Team, Provo, Utah, USA organized the first International Conference on Buruli Ulcer Control and Research in Yamoussoukro, Côte d'Ivoire in July 1998 (25). More information on the Conference is given in Annex 2.

The signing of *The Yamoussoukro Declaration on Buruli Ulcer* (see Annex 3) by the Presidents of Benin, Côte d'Ivoire, and Ghana and by the Director-General of WHO served to stimulate all the participants and to spawn hope that such proclamations will be followed by meaningful action. The declaration also served to back WHO's efforts to address the disease. The final resolution of the Conference (see Annex 4) calls on the endemic countries to provide free treatment to those afflicted by the disease, as is done for those suffering from tuberculosis and leprosy, and on the international community to assist endemic countries to deal with the disease.