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EDITORIALS

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Leprosy in Malaysia and Southeast Asia[1, 2]

Although the highest incidence of leprosy is reported from Africa, and the greatest number of registered patients from India ([2]), it is Southeast Asia which holds a particularly unenviable reputation, for in that area the disease is both severe and difficult to treat. Most of the major races living in the region have a high lepromatous rate, although this is not true for immigrant Indians (mainly Dravidian) whose lepromatous/tuberculoid ratio is similar to that obtaining in their motherland. Furthermore, erythema nodosum leprosum (ENL) occurs in more than 50 per cent of lepromatous patients ([8, 18, 19]). Sometimes the reaction may persist for many months or years, and is not infrequently of the pustulating or necrotizing variety ([9, 20]), and secondary amyloidosis, with heavy albuminuria, hypoproteinemic edema, and diarrhea may develop in these patients, certainly among the Chinese and probably also in Malays. Therefore the management of patients with severe ENL (whose reactions presumably correspond to the variety named by Cochrane ([3]) as "progressive lepra reaction") is especially difficult. It is interesting to note that two separate groups of workers, in Malaysia and in the Philippines, have both advocated ([16,18,19]) the continuation of specific antileprosy drugs during the reactions. Such a policy is in complete contradistinction to the advice proferred by the Third WHO Expert Committee on Leprosy ([21]), and by the Panel on Lepra Reaction ([4]) at the VIIIth International Congress of Leprology in Rio de Janeiro.

Another difficulty is that even patients who have received seven to ten years of continuous chemotherapy frequently remain smear-positive. This would suggest that the bacterial load in untreated patients is often very heavy and/or that the large numbers of dead bacilli resulting from effective chemotherapy are perhaps more

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[2]Guest editorial.

slowly disposed of than in other races elsewhere. Furthermore, a small number of clinically and experimentally proved cases of dapsone-resistant leprosy have already been reported from the region (13). Therefore treatment needs to be prolonged and carefully controlled.

Although the prognosis, including the incidence of ENL and rate of response to chemotherapy, conforms to that of severe lepromatous leprosy elsewhere, clinically certain difficulties arise. The author well remembers, soon after he first undertook leprosy work in Malaysia, showing a visiting leprologist around his wards. After about 50 patients had been examined, mostly Chinese and Malays selected because they had been admitted with progressive, untreated disease, it was stated that only one, a Southern Indian, had undoubted pure lepromatous leprosy. Certainly at Sungei Buloh Leprosarium, most lepromatous patients show clinically a small number of atypical, asymmetric features, and have in all probability developed from borderline disease. Ryrie (15), who had extensive experience with leprosy among the Chinese in Malaysia in the presulfone era, was the first to emphasize this natural evolution to lepromatous disease. He also drew attention to its implications for treatment, classification and control. Similar observations were made by Maxwell and Kao (10) in Eastern China. At the VIth International Congress of Leprosy, Molesworth and Hale (11) described the rapid breakdown of resistance in Chinese and Malays, tuberculoid cases becoming lepromatous, passing through an atypical or intermediate phase. They considered that in some ways their experiences were unique to Malaysia. However, at the same conference, Montel (12) stated, "En Cochinchine la forme tuberculoide est presque tourjours, sinon tourjours, la forme de debut de la lèpre." He added that he had many times observed transformation from tuberculoid to lepromatous leprosy. There is therefore no doubt that over much of the region leprosy is very unstable, with a marked tendency, in the absence of treatment, to deteriorate toward or to the lepromatous pole. It is not surprising that Ridley and Jopling (14), in their discussion of the histologic classification of leprosy, consider that in Malaysian patients an intermediate stage between pure lepromatous (LL) and near-lepromatous (BL) leprosy is relatively common, in which the granuloma is composed of undifferentiated histiocyte cells and which is difficult to classify.

The instability of the disease, with the possibility of very rapid deterioration, has three important applications. For the patient, a delay in only a few months before reporting for (or commencing) treatment may greatly affect his prognosis. Indeed, when resistance fails, the leprosy bacilli may multiply in the skin at a speed suggesting a logarithmic phase of growth; thus ears with a negative or 1+ bacterial index (BI) on Ridley's logarithmic scale (14) may become 4+ within three or four months. Furthermore, the likelihood or otherwise of his developing ENL may be greatly affected, although it should be noted that near lepromatous patients (BL according to the Ridley and Jopling classification (14)) not infrequently develop localized ENL-like lesions restricted to infiltrated areas. The exact nature of this type of reaction is debatable (20), but, perhaps associated with the more rapid fall in the BI in BL leprosy, the reaction is not usually as prolonged as classical ENL in LL leprosy.

From the research worker's point of view, accurate classification is essential, especially in controlled chemotherapeutic trials. For it is important to distinguish as far as possible between those patients who have completely and permanently lost all resistance to *M. leprae* and those who, as Davey has pointed out (5), remain capable of reverting to borderline leprosy under chemotherapy. In Malaysia, pure lepromatous (LL) patients have proved remarkably constant in their rate of response to treatment clinically, histologically and bacteriologically, whereas near-lepromatous (BL) patients have been far more diverse; furthermore, five of 17 BL patients analyzed in two controlled trials have changed in classification while under study (18, 19). LL patients are therefore better suited to trial studies, but their accurate classification de-

pends not only on clinical assessment (including the lepromin test), but also on histologic and bacteriologic examination.

The third application is in some particulars far more speculative. It is, of course, obvious, as Ryrie himself pointed out, that patients with tuberculoid or borderline disease should be immediately and fully treated. It would also appear advisable that, whenever possible, tuberculoid patients should be followed up for longer than the minimum period of two to three years. Furthermore, Ryrie recommended the special training of doctors, health and welfare workers, and teachers in the diagnosis of tuberculoid leprosy. The significance of minor tuberculoid lesions is less frequently appreciated in Malaysia, as compared with the other stigmata of leprosy. Therefore an adequate case-finding program is especially important; it should be associated with other measures recently listed by Dharmendra for a balanced approach to leprosy control ([6]). In this respect it is particularly encouraging to find that a full leprosy control program, aimed at the eradication of leprosy as a public health and social problem, is envisaged in the First Malaysia Plan ([7]), and its details are eagerly awaited. However, the same Plan gives details of what may already be a very significant development. West Malaysia (Malaya) is a small and relatively advanced country. Its population (1963 census) was 7,604,000. Yet between 1961 and 1965, 384,000 newborn babies and 535,000 persons living in tuberculosis-risk areas received BCG vaccination, i.e., well over 1 in 9 of the whole population. Moreover, it is estimated that approximately 50 per cent of all babies born in the country now receive BCG shortly after birth. Therefore, if primary pure lepromatous leprosy is as rare in Malaysia as has been suggested, and if the results of the Uganda BCG trial ([1]) continue to support the prophylactic value of BCG in tuberculoid leprosy—and the second follow-up survey continues to support the previous findings—then within 10 years a significant decrease in the incidence of leprosy, at least among the younger age groups, may be expected. Time alone will show.

In the meantime it is imperative that the known methods of leprosy control be utilized to the full. Southeast Asia is a region that has had its share of political and economic problems, and these in turn affect control programs. But even brief accounts of such programs ([17, 21]) reveal many deficiencies in the methods used to combat leprosy in the area. Indeed in some countries the size of the problem is scarcely known, because so few surveys have been performed. In others attendance rates at outpatient treatment centers are woefully low, and even in the Philippines, where control schemes were commenced many decades ago, the relapse rate in treated lepromatous patients is reported to be as high as 50 per cent ([17]). Some progress has been achieved in the last two to three years, and more hard work is planned for the ensuing few years. It is expected that the next general account of leprosy control in the region will present a rather more hopeful report than the last. But for the present there is no room for complacency.

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