*The Curability of Leprosy

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THE writer's thanks are due to the Secretary of the British Empire Leprosy Relief Association for persuading him to publish the article under the above name, intended for another audience, in the Leprosy Review, for it has elicited some very interesting and instructive comments from many authorities universally held in the highest esteem.

Some misconceptions, however, should be removed. We are not wedded in British Guiana to the idea of the specificity of hydnocarpus oil and its derivatives. Indeed quite as spectacular results have been obtained in a few cases with esters prepared from the local " crab-oil," a product of *Carapa Guianensis*. Thus it would seem that other oils and their esters produce a similar effect.

There is also some evidence, which need not be detailed here, that the beneficial effects of the administration of these products are not due to any direct bactericidal or other similar action on the M. leprae, although one must admit that it is hard to explain on other grounds the undoubted efficacy of intra-dermal injections of the esters.

In fact, the analogy mentioned by Dr. MacLeod with codliver oil in tuberculosis is very much to the point.

At the same time there is no doubt that very remarkable results are obtained from administration of hydnocarpus derivatives quite apart from the improved living conditions consequent upon hospitalization referred to by Dr. Wade.

In this country for five years we have operated out-patient clinics where early and closed cases are trea and deliberately no advice has been given as to diet, exercise, etc... The only additional factors operating after admission to the clinic have been the adminstration of hydnocarpus oil products and the application of local irritants. Some cases have, of course, attended irregularly and serve as a control group. The evidence has not yet been marshalled. but the improvement in general well-being, increase of body-weight, disappearance of signs and symptoms etc. are so striking as to carry the conviction that there is some factor in these products operating beneficially on the patient.

However that may be, the purpose of the article was not

***Dr. Rose originally wrote a paper on this subject which appeared in the October 1934 number of this Journal. In that issue and the following issue of the Journal a number of comments on Dr. Rose's paper by authorities in different countries were published. The present paper is an answer to these comments.**

to demonstrate any specificity of this oil and its derivatives, but merely to obtain some sort of agreement as to what might be considered a criterion of cure.

Dr. Wade enquires very pertinently what percentage of cases hospitalized before the treatment period is represented by the 180 spontaneously arrested with deformity. Very pertinently, because both Drs. Sharp and Wayson conclude entirely erroneously that 180 out of 647 cases recovered without treatment.

In point of fact, only three cutaneous cases survive from the pre-treatment period and some of the 180 go back as far as 45 years. The percentage of survivals is really much nearer 2.7% than 27.8%.

Dr. Wayson disparages the photographs which Dr. Sharp finds convincing! Dr. Wayson's is a great rich country, ours a small poor one. The enlargements were made with an apparatus devised by the writer from an old lantern projector. The photographs were taken by one of the nursing sisters in her little spare time. They may be poor, but they are the best we can do with the apparatus at our disposal.

One must agree with Dr. Wade that " arrested, with deformity " is a satisfactory exchange for " burnt-out," and that " arrested without deformity " is more applicable than " arrested and recovered." The former will therefore be used in future. It might be pointed out, however, that some commentators do not seem to have recognized the identity of cases " spontaneously arrested with deformity " with " burnt-out " cases.

Dr. Sharp states that it is generally claimed that 40% of early cases will become spontaneously arrested. If by this he means arrested without deformity, we here cannot claim a similar fortunate experience. It is true that one sees occasionally, in examining contacts, cases in which the attack seems to have aborted, but whoever believes that 40% of untreated cases become arrested without deformity is bound some day to have a rude awakening.

Dr. Sharp also suggests that after six years' arrest a spontaneously arrested case might also be regarded as cured. This suggestion one must accept, and, in fact, the figure of 6 years' was obtained partly by taking such cases into consideration, but it is necessary to bear in mind that practically no spontaneously arrested case is arrested without deformity, and herein lies the great contrast between the treated and the untreated.

Dr. le Roux stresses the inaccurate means of assessing " arrest," but then " arrest " is not obtained until 2 year after " quiescence " and during those 2 years' many examinations have been made, thus reducing the possibility of error.

His observations are much more pertinent in considering the question of " interruptions " during " quiescence " to which no reference is made in the paper.

Dr. Muir refers to the examination of contacts and the isolation of children from infectious cases. Home contacts have been examined for many years, but with regard to school contacts, there are difficulties which have not yet been surmounted. The separation of children from infectious cases is, of course, a matter of some importance which has been engaging the attention of the authorities here for some time and will, soon, I think, be very satisfactorily dealt with.

Dr. Welch's experience with children with well-marked symptoms at an early age does not correspond with ours, but here, thanks to the establishment of out-patient clinics, and wide propaganda, we get very few C3 children, most of them coming under treatment in the early stage.

Experience here does not support the idea of any uniform and gradual change from macular type to the more serious stage of neural leprosy and some years later to cutaneous nodular type, as described by Dr. Mitsuda.

It is a rare occurrence in this country for a pure neural case to progress into a cutaneous or mixed; we have very few such cases on our records, though almost invariably the cutaneous stage is preceded by a macular stage, often without anaesthesia or other evidence of nerve involvement.

The appearance of macules may precede the development either of a pure neural, of a cutaneous or of a mixed type; in rare instances the neural or the cutaneous type may be unheralded by macules, but transformation from neural to cutaneous or vice versa is a rare event. One cannot but think that the time-periods given by Dr. Mitsuda in the relapse cases he mentions are not comparable with those in the original article. The suggestion is that a period of 6 years *after arrest* should be allowed to intervene before a patient is pronounced " cured "; this means after an unbroken period of 8½ years of inactivity. It appears that 33 of the 128 cases quoted by Dr. Mitsuda relapsed after 8 years of apparent recovery. He does not state, however, whether these patients were under continuous observation

so that the exact date of relapse could be calculated with sufficient accuracy. My own cases have almost all been examined at regular monthly intervals throughout the period in question, nor were my observations confined exclusively to cutaneous cases.

One is quite clear from previous experience with relapsed cases that if they are not followed up, they do not at once report themselves but wait, it may be a year or more, when they can no longer deceive themselves, before they once more seek treatment.

One would like to know, therefore, to what kind of supervision these people were exposed and how the date of relapse was calculated. More especially is it essential to know whether the nasal mucosa was regularly examined.

It has been stated—and it is borne out by our own experience—that the skin, as a rule, becomes positive before the nose, and that the nasal examination must be regarded as supplementary to that of the skin.

Much experience in following up quiescent and arrested cases, however, has taught us in British Guiana that the nasal mucosa frequently remains positive long after the skin has become negative, and that the re-appearance of the M. leprae in the nose almost invariably precedes its re-appearance in the skin, so that the regular examination of the nasal mucosa is a very essential procedure in the supervision of quiescent and arrested cases.

Twenty years ago when the writer was appointed Bacteriologist to the Government of British Guiana, it was the practice only to isolate closed cases of leprosy and only to discharge cases after bacteriological examination by the Bacteriologist and the Government Medical Officer of Health.

It has been his good fortune, therefore, to have seen and examined practically all the known cases of British Guiana for the past 20 years and, in fact, all known cases now surviving have passed through his hands.

No case is discharged without a rigorous examination of skin and nasal mucosa personally carried out. All suspicious skin is examined and by a method which one is gratified to find is the same as that des
Review, except that the skin is not cleansed before or compressed during the incision.

The period of 8½ years is therefore based on a fairly lengthy experience, and it would be very helpful if Dr. Mitsuda would be good enough to clear up these points.