

MACULAR LEPROSY IN CENTRAL AFRICA
WITH SPECIAL REFERENCE TO THE "MACULOID"
(DIMORPHOUS) FORM

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Since the 2nd Pan-American Leprosy Conference, held at Rio de Janeiro in 1946 ⁽⁴⁾, adopted the concept of "polar" types of leprosy designated tuberculoid and lepromatous, these two main divisions have survived as internationally acceptable. Between these "poles" lie many forms and manifestations of leprosy which constitute a disputed territory which three subsequent international leprosy congresses have failed to chart.

A beginning was made at Rio de Janeiro by inserting an intermediate type characterized by flat macules and undifferentiated histology, which was given the unfortunate name of "uncharacteristic" (*incharacteristico*) (symbol I). The Havana Congress in 1948 ⁽⁶⁾, accepting (only) the primary classification proposed by its committee, gave recognition to the new form characterized mainly by flat macular skin lesions histologically of simple inflammatory nature, but changed the name to "indeterminate" and reduced its status from type to group. This group, to follow the metaphor, might have been termed "equatorial" except that, by its restricted definition, it failed to bridge the actual gap between the poles.

Another group, "borderline" [Wade and Rodriguez ⁽²³⁾, Wade ⁽²⁰⁾], was introduced soon afterward. At the Rio de Janeiro conference a recreational form had been included in the varieties of the tuberculoid type, which form it was explained would include the *limitantes* (borderline) lesions. The Third Panamerican Conference, held in Buenos Aires in 1951 ⁽⁵⁾, took note of a consensus in favor of recognizing borderline (*limitantes*) cases, but put the matter off for the coming Madrid congress. Before that occurred, however, the first WHO Expert Committee on Leprosy, which met in Brazil in 1952 ⁽²⁴⁾, adopted borderline as a fourth form or class, with a brief description which depended largely on the preceding definition of reactional tuberculoid leprosy, from which such cases usually arise. The Madrid congress, held in 1953 ⁽⁷⁾ followed suit, introducing parenthetically the word "dimorphous" in the name of the group (but with "B" as its symbol), and giving a fuller description; also with recognition of a "reactional borderline (dimorphous) variety."

The skin lesions of this form, it was stated, are usually seen as plaques, bands, nodules, etc., with a regional distribution similar to that of lepromatous leprosy except for conspicuous asymmetry; they frequently have a soft or succulent appearance; and peripherally they

slope off and do not have the clear-cut, well-defined margins seen in tuberculoid lesions. In reactional borderline cases the skin lesions become edematous and may ulcerate. These descriptions were not altered by the Tokyo congress (⁸), whose classification committee held that it would be premature to attempt changes in the Madrid classification.

Regarding simple macules, the Madrid classification distributes them among the lepromatous, tuberculoid and indeterminate forms; the lesions of the borderline form are not macular but "infiltrated." This distribution of the macules provoked a dissenting vote from Wade (⁷), who held that to be considered clinically as tuberculoid a macular lesion should show objectively some of the morphologic characteristics of that type.

In another dissenting opinion Khanolkar and Cochrane (⁷) held that there exist macular dimorphous lesions which justify their inclusion in the "borderline (dimorphous) group." They defined a dimorphous macule as follows:

These macules show, clinically, characteristics of both the tuberculoid and lepromatous types. Their distribution is that of lepromatous leprosy; the margin of the lesion is less definite than that of the tuberculoid macular lesion, but not so vague as that of the lepromatous macule; the surface tends to be dry and may show a wrinkled or creased appearance. On careful examination some loss of cutaneous sensibility can be elicited.

The question of the status of flat macular lesions which cannot, from their clinical and histologic features, be regarded as simple indeterminate or be placed in either the tuberculoid or the lepromatous type remains a stumbling block in the application of the Madrid classification in African leprosy. Back in 1947, Davey (⁹) told of the gamut of unusual lesions to be encountered, and—under the influence of Cochrane—Browne (¹) has recently described such cases as "macular dimorphous." I myself subscribe to that general concept.

INDETERMINATE LEPROSY

In this paper, which is based on an analysis of 1,599 leprosy patients personally examined by me over the past four years, an attempt is made to examine the status of indeterminate leprosy as seen in the Bantu people of Nyasaland, Central Africa. To this end it is necessary to consider the diagnostic criteria laid down by the Havana congress. Although the report of the Madrid congress supplanted the Havana one, providing us with our most recent international classification, it does not include a statement about the histology of the indeterminate group. In other respects the Madrid definition agrees with the Havana criteria but adds that, in cases which have remained for a long time within this group, more or less extensive neuritis may appear. For these reasons, to define indeterminate leprosy I find it advantageous to return to the Havana criteria, which are as follows:

Skin lesions: Flat macules, hypochromic, erythematous or both.

Bacteriology: Usually negative or moderately positive.

Lepromin test: Usually negative or moderately positive.

Histopathology: Small round-cell infiltration as in other chronic inflammations.

When the above criteria are strictly applied, the frequency of unequivocal indeterminate leprosy in Nyasaland is less than 1.0 per cent. Less strictly applied, and including cases deviating towards low-grade tuberculoid or lepromatous, the figure may be increased to approximately 5.5 per cent or more, depending on the views of the leprologist (Table 1).

TABLE 1.—The frequency of indeterminate leprosy among 1,320 patients examined at Kochira Leprosarium.

Type of leprosy	No. of cases	Per cent of total	Average duration (year)	With nerve involvement (per cent)
Classical indeterminate	12	0.9	2.25	0.0
Indeterminate tending towards low-grade tuberculoid macules	34	2.6	3.82	58.8
Indeterminate tending towards pre-lepromatous macules	25	1.9	4.40	80.0
Total	71	5.4	—	—

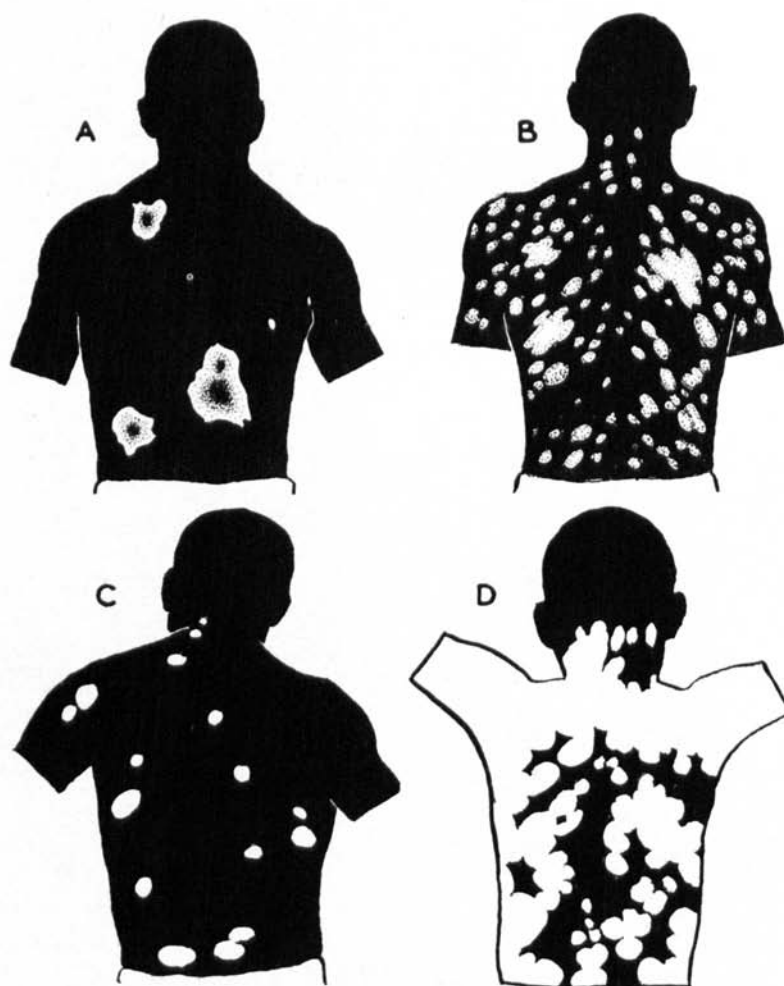
The frequency of indeterminate cases among patients seen in field surveys in Nyasaland, where the diagnosis of necessity is purely clinical, is 2.5 per cent, with an average duration of 3.5 years. At the less-specialized institutions with primitive diagnostic facilities the diagnosis remains uncertain.

From the figures shown in Table 2, it can be concluded that classical indeterminate leprosy is not a common form in Nyasaland and scarcely deserves the status of "group." With a corrected frequency of only 1.0 per cent it represents little more than the knife-edge of the fulcrum on which the immunological balance of leprosy turns. For every case that can confidently be diagnosed as indeterminate there are four or more which in one or another respect do not strictly fulfill the accepted criteria, and yet they cannot be placed in any of the other three categories of the Madrid classification. Such cases tend to be included in the indeterminate group, *faut de mieux*. In their classification it is the leprologist rather than the leprosy who is indeterminate; he knows very well where the case stands as regards immunity, but he cannot fit it into the available compartments of the Madrid classification.

TABLE 2.—Type frequency of leprosy (Madrid classification) in Nyasaland, in percentages.

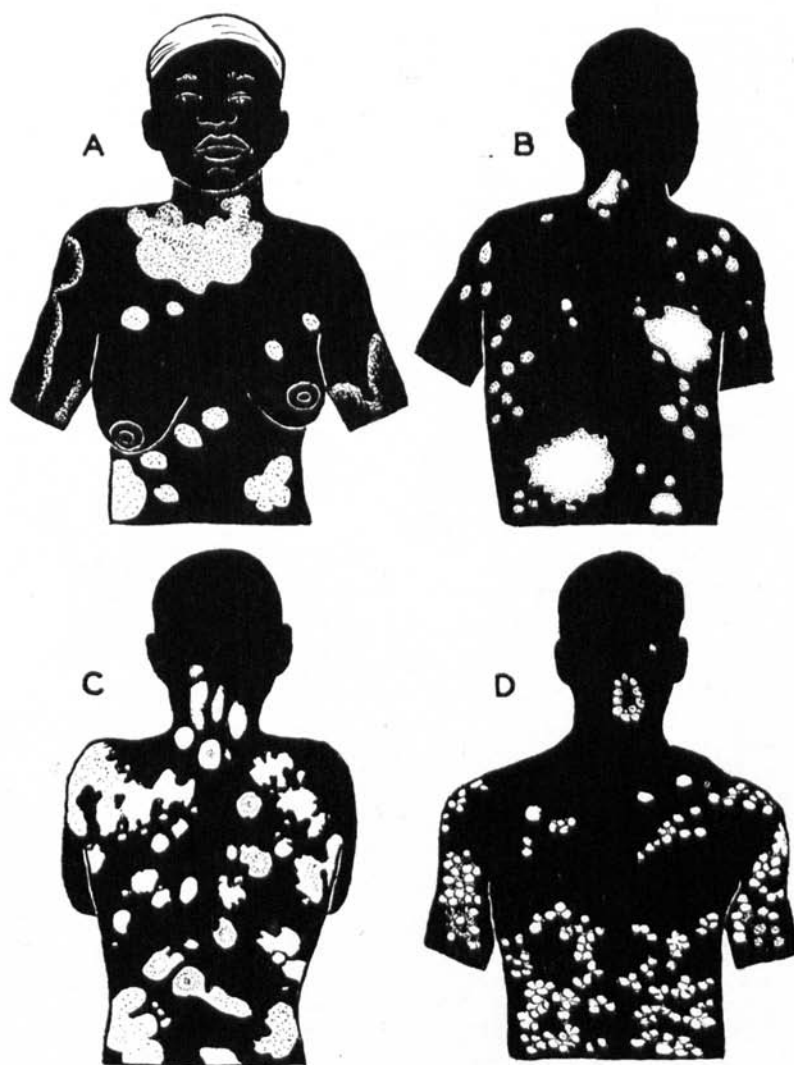
Type of leprosy	Untreated cases (based on surveys)	Cases under treatment as outpatients	Cases in institutions	Estimated overall frequency
Lepromatous	10.5	8.3	57.0	13.7
Indeterminate	2.5	2.1	1.5	2.2
Dimorphous	3.0	4.6	10.5	3.8
Tuberculoid	84.0	85.0	31.0	80.3

Before attempting a description of indeterminate and other macular forms of leprosy as seen in Nyasaland, a variety of which are illustrated in Text-figs. 1 and 2, it is necessary to examine critically the validity of the diagnostic criteria laid down by the congresses, and to consider the factors which modify the picture.



The drawings have been prepared by tracings from actual photographs, and are semi-diagrammatic. They illustrate the pattern of the lesions in maculoid leprosy.

TEXT-FIG. 1. *A*: A typical minor tuberculoid case showing few patches, which tend to be large and are asymmetrically distributed. *B*: Prelepromatous macular leprosy, not far removed from the indeterminate group. The lesions are profuse, symmetrical and small. The larger patches result from coalescence of smaller macules. The edges are hazy. *C*: Classical indeterminate leprosy exhibiting moderately few macules of moderate size and moderately symmetrical. There is no serration of the edges of the macules, which are quite well-defined, and there are no colonial macules. *D*: An advanced case of indeterminate leprosy in which the macules have become confluent by greater local invasion and more numerous blood-borne metastases. The edges are distinct, rounded and free from satellite spots.



TEXT-FIG. 2. *A*: A case which at first glance appeared to be typical indeterminate leprosy. Closer inspection revealed that the lesions on the arms had a trace of central resolution, and impaired sensation. The history indicated that these were the primary lesions, and histologically they were of low-grade tuberculoid (maculoanesthetic) type. *B*: Maculoid leprosy of near-indeterminate type, but histologically showing degeneration toward the lepromatous type, with numerous macrophages some of which had vacuolated cytoplasm. The sequence of primary and secondary lesions is seen. The edges are slightly hazy, and also serrated with satellite lesions. *C*: A case which appeared at first glance to be indeterminate leprosy. Closer inspection revealed faint central resolution in some macules, with concentric (target or cockade) lesions faintly visible in others. Some macules have regular rounded contours, and others are serrated and have satellite spots. Histologically this case is truly macular dimorphous. *D*: A maculoid case in which the many lesions appeared in the course of a few weeks. They consist of minute macules with moderately distinct edges which are arranged in clusters and groups. One group on the back of the neck appears to form the dotted outline of a tuberculoid patch with a resolved center. (The same case is illustrated in Fig. 2.)

THE MACULE

The cardinal (and indeed only) sign of indeterminate leprosy is the macule, unless there has been time for sensory disturbances to have developed. To the dermatologist a macule is a circumscribed deviation from normal skin color, without alteration of surface level, texture or consistency. It must however be remembered that the macule of indeterminate leprosy results from a chronic inflammatory cellular infiltrate in the cutis, and is therefore a potentially elevated lesion. A quantitative increase of the infiltrate without any change in the essential nature of the histology will produce elevation, coarsened texture and palpable thickening. Thus Khanolkar⁽¹²⁾ speaks of "weal-like papules" as occurring in the indeterminate phase of leprosy. Conversely, a qualitative change in histology can occur without an increase in cellular exudate sufficient to produce visible elevation. Thus, in these apparently simple macular lesions our clinical diagnosis is often confounded. Dharmendra⁽¹⁰⁾ has commented that, although it has been agreed that the basis of classification of leprosy should be clinical, the stress always tends to be placed on the histology. Too much reliance can be placed on the flatness of the lesion as a diagnostic criterion. Siemens⁽¹⁶⁾ reminds us that skin lesions which only appear to be flat but which in fact, by their histology, are potentially elevated should preferably be called *maculoids*; and such are the macules of leprosy.

PIGMENT CHANGES

The appearance of macular (or maculoid) leprosy in the African Bantu race is dominated by pigmentary changes. Early subtle signs such as erythema are usually completely obscured, or are detectable only by the eye of an experienced observer. More severe inflammatory processes, whether leprosy or not, may lead to disturbance of pigment production either in the form of hypo- or hyper-pigmentation, particularly—as Thomas⁽¹⁹⁾ points out—when the epidermodermal junction is severely disturbed, as for example in lichen planus and lupus erythematosus. The hypopigmentation of leprosy can therefore be explained on a purely nonspecific basis, especially in tuberculoid lesions where the infiltrate generally invades the pars papillaris, extending right up to the epidermis with no intervening clear zone. Although Siemens and Marchionini⁽¹⁷⁾ refer to the "analgetic leucoderma" of leprosy there is no proof that a nerve lesion is the operative factor, and, indeed, loss of sensation typically is not demonstrable in indeterminate macules which may exhibit striking pallor.

Szabo⁽¹⁸⁾ has shown that variations in skin color are related not to the number of melanocytes, but to their activity in producing melanin. The darker the skin the more active the melanocytes, and a stability of melanin production in the presence of inflammation may completely obscure the lesion. This is illustrated in Figs. 1 and 2, depicting a patient who had distinct macules of indeterminate appearance on the lighter-

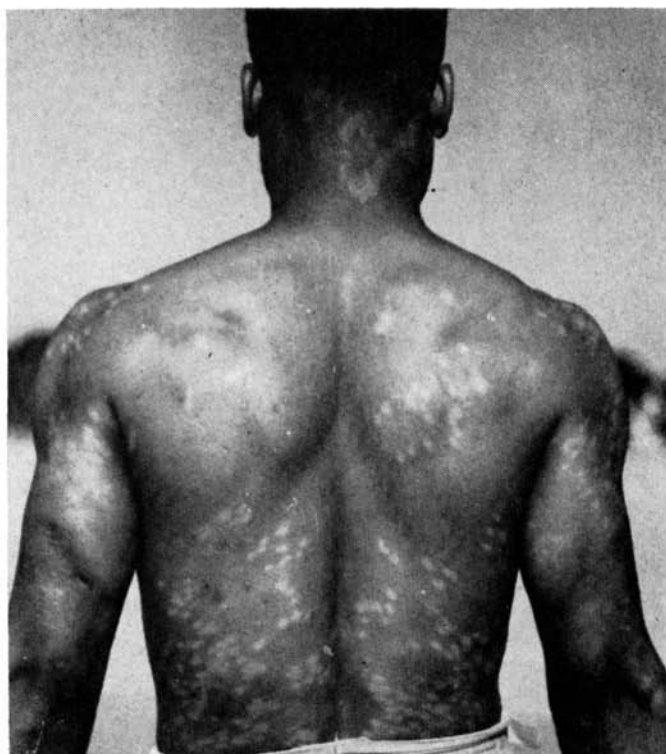


FIG 1. Maculoid leprosy of rapid clinical evolution, characterized by grouped lesions. Individually these lesions have the appearance of minute indeterminate macules, but with a trace of coarsened texture. The ring of macules on the back of the neck is arranged as though it enclosed the area of a "healed" lesion, but that area has never been the site of a visible lesion. There is involvement of nerve trunks. The histology is low-grade tuberculoid. (See also Test-fig. 2D.)

skinned (covered) parts of the body, but none visible on the feet until sweating induced by exercise moistened the unaffected skin and thus revealed the macules as disks of dry dusty anhidrosis. A parallel is Mostert's case (¹⁴), a European patient with "simple macular leprosy" who first noted his macules when dust adhered to the moist parts of his body while working on the land, leaving the macules standing out clearly as pale dry white patches. Admittedly these two cases were revealed by anhidrosis, which indicates a degree of nerve damage suggestive of tuberculoid differentiation.

One must assume that some indeterminate cases with circumscribed skin lesions and stable melanin production do not proceed to depigmentation and are never diagnosed. This would explain my experience that indeterminate macules are more common in pale-skinned Africans than in darker individuals. The relative frequency of maculoanesthetic lesions in Indian patients, commented on at Tokyo (⁸), as compared with other races may be due to an instability of melanocyte activity not so commonly occurring in darker races and not so commonly noticed in paler races.



FIG. 2. Feet of a maculoanesthetic case (indeterminate tending towards low-grade tuberculoid) on which no macules were normally visible, but appeared when sweating occurred to moisten the unaffected skin and thus to define the lesions as disks of dusty dry anhidrosis.

A lethargy of the melanocytes may also explain why indeterminate macules in paler-skinned Africans are often so reluctant to repigment despite clinical arrest of the disease—a phenomenon seen in other diseases, e.g., the hypochromia which persists sometimes for years after pityriasis versicolor or lichen planus has been cured.

ERYTHEMA

The color of a leprosy macule is instructive. The Havana description of indeterminate provided not only for hypochromic but also for erythematous and erythemahypochromic lesions. The former, as stated, will seldom be recognized in an African skin. Kitamura and Nishiura (¹³), discussing “neural macules” under which name they include the indeterminate group, state that “cases with erythematous, more or less well-defined anesthetic macules . . . fall into the tuberculoid group, because such lesions histologically *must be of tuberculoid nature*” (italics mine). None of the cases diagnosed as classical indeterminate leprosy in this study showed demonstrable erythema, and I have seldom seen it in undoubted indeterminate macules in the dark-skinned Bantu patients. Histologically, a richly vascular granuloma is characteristic of lepromatous lesions, and is not a feature of the tuberculoid granuloma except in reacting or reactional lesions, which bear little clinical resemblance to indeterminate macules.

On the other hand a reddish or copperish color in leprous macules in dark-skinned Africans is highly suggestive of tuberculoid histology. This was demonstrated to me by Ross Innes (¹¹). By the simple test of diascopy, i.e., examination of the lesion under pressure of a piece of glass, it can easily be proven that the red color is not due to erythema.¹ This reddish-copper color is only significant on covered parts of the body, as exposure to the sun will produce a similar hue in macules of undifferentiated histology.

As a general rule, therefore, in Central African patients demonstrable erythema, especially of cyanotic type, suggests differentiation towards dimorphous or the lepromatous type, whereas a reddish or coppery color suggests an underlying tuberculoid granuloma. The absence of this characteristic color in indeterminate macules and dimorphous maculoids may be attributable to a color-filter action by the clear zone in the pars papillaris which so often separates the granuloma from the epidermis at this stage of development.

DISTRIBUTION AND MORPHOLOGY

The dissemination of leprosy bacilli from the focus (or foci) of primary lodgement in the skin is similar to that of carcinoma cells, the routes being local infiltration, hematogenous dissemination, and lymphatic spread. Resistance to the three routes is usually proportionate, and in harmony with the immunological state of the patient. Thus, tuberculoid lesions are typically indolent, large, sharply-defined and few in number. Lepromatous macules, on the other hand, typically are rapidly progressive, small, vague-edged and numerous. One would therefore expect indeterminate macules to be of moderate size and definition and moderately numerous. In practice, however, the appearances may be (and usually are) modified by so many factors that such a "typical" case is a rarity. The following are some of the factors in operation.

1. *Degree of allergy.*—There is ample evidence that hypopigmented macules are not caused by any intrinsic property of the leprosy bacillus—witness their absence in fully anergic lepromatous leprosy—but that they result from the host's allergic reactivity to the bacillus. A macule of given appearance can therefore result from varying degrees of allergy, provided that the numbers of bacilli also vary in inverse proportion to the allergy. These variations will be reflected in other aspects of the case.

2. *Route of bacillary invasion.*—Resistance to the three modes of spread, infiltrative, embolic and lymphatic, may not be in harmony, with the result that one route may predominate relative to the others.

- (a) *Infiltrative spread:* The rate at which a macule spreads is very

¹ Diascopy is rendered difficult in Africans by reflection due to the mirror action of the dark surface behind the glass. This can be minimized by wetting the skin with soap and water before applying the glass.

variable. One patient aged approximately 60 years, found in the course of a leprosy survey, had three indeterminate macules which first appeared in childhood before puberty and which, with little extension but fluctuations in intensity, had persisted for about 50 years. It is little wonder that he did not seek treatment.

(b) Hematogenous spread: The variation of effectiveness of resistance to spread is most apparent in respect of the hematogenous element. The lesions may vary from a few large, asymmetric patches to the profuse symmetric leopard-spotting typical of prelepromatous macules, and only the features of the individual lesions give the clue to the clinical diagnosis.

(c) Lymphatic spread: According to Davey (⁹) serration of the edge of the macules and the appearance of colonial or satellite macules are due to lymphatic spread. It is in the upper, vascular part of the corium that the lymphatic network is horizontal to the surface, and not in the deeper parts where the vascular arrangement tends to be more vertical. A serrated edge and the presence of colonial spots indicate therefore a high degree of activity but not necessarily the depth of the process, and is quite compatible with a classification of "indeterminate." If the macule is transitional and the evolution is towards the lepromatous pole, as is usually the case—it being easier to slip downhill than up—the serration may well be obscured by hazing or by halo formation which results from active, or recent, inflammation of reaction incompatible with this classification.

3. *Fluctuations of immunity*.—In a disease which is in the progressive phase of invasion and of overcoming the defenses of the host, it is understandable that the tendency will be towards a deterioration of immunity, but fluctuations undoubtedly occur both in allergic reactivity and in the numbers of bacilli present.

4. *Crops*.—Probably as a result of such fluctuations, macules tend to appear in crops. Because of the time factor and the downward trend in immunity, the original macules tend to be large and few, while successive crops produce progressively smaller and more numerous lesions nearer to the lepromatous type in appearance.

5. *Locally acquired immunity*.—The local immunity acquired by the earlier lesion tends to survive, the skin preserving its original architecture and histology despite a deterioration in the immunity state of the patient as a whole, which is reflected more nearly in the most recent lesions. Here again the clinical picture, which takes time to develop, lags behind the progress of the disease. How often a new crop of macules appears while the patient is under treatment, which does not represent an extension of the disease but is merely a revelation of its true extent which was not suspected at the time of first examination.²

² This is quite distinct from the "reversal reaction" of Wade (²²) which is an appearance of tuberculoid-like lesions in lepromatous cases under treatment, for which Chaussinand *et al.* (²) have suggested the name "reactional tuberculoid transformation."

The histology in such cases is of course as variable as the visible lesions, and ranges from nonspecific chronic inflammatory exudate to the paradoxical picture of dimorphous leprosy where epithelioid and foamy lepra cells coexist in the same patient, and sometimes even in the same biopsy specimen.

A problem of classification is posed when the primary macules are low-grade tuberculoid (the maculoanesthetic group of Indian leprologists) and the secondaries are typical indeterminate lesions both clinically and histologically. It has been agreed that the case should be classified according to the features at the time of examination. Is the clinician to base his classification on still-visible evidence of the former state of immunity, namely the primary lesions, or to accept the latest information as presented by the secondary macules? Admittedly many such degenerating cases show occasional cells with foamy cytoplasm and are therefore histologically dimorphous. It is not possible to fit this type of case into the Madrid classification. The name "borderline (dimorphous) group" pertains to cases with infiltrated, elevated lesions, with no provision for "simple macular" cases. But, they can be accommodated in Cochrane's ⁽³⁾ new classification because the macular variety of his dimorphous form includes "maculoanesthetic lesions and multiple macules without anesthesia," an apt description.

Wade ⁽²¹⁾ has objected to the term "dimorphous macular leprosy," on the ground that the word "dimorphous" is being "used in a strictly histologic sense—for which *morphe* (form or shape) is hardly appropriate." The argument for inclusion of certain macular cases in the "borderline (dimorphous)" group is that they share the characteristics of being intermediate between the "polar" types and of being in transition. Wade's objection might be met in part by substituting the adjective "maculoid" for "macular" indicating that the lesions, although appearing to be flat, are potentially elevated.

6. *Subliminal invasion*.—The existence of a threshold of allergy permits unseen progression of the disease so long as the numbers of bacilli remain subliminal. Increase either of bacilli or of allergy will trigger the reaction which produces a visible lesion. Presentation may be explosive, with widely scattered macules appearing over the course of a few days or weeks. If the pattern consists of a few large, sharply-defined flat patches amid a profusion of smaller, more hazy-edged spots, we may safely presume that they are contemporary only in their revelation, and that a subclinical evolution from primary to secondary lesions has taken place. This silent sequence is beyond doubt where large primaries of tuberculoid architecture, complete with healed centers, suddenly appear together with secondaries which are macular or reflect lower degrees of immunity. Such dramatic presentations, even when macular, nearly always show the dimorphous histology which is evidence of degenerating immunity.

Silent lesions have been demonstrated in skin biopsies of apparently

healthy contacts of "open" leprosy cases (¹²). The proliferation of fixed cells in the proximity of acid-fast bacilli, and the migration of monocytes toward them, indicates potential if not actual immunity. As Rich (¹⁵) remarks, antibody can be liberated from mononuclear cells into the surrounding medium and therefore participate in an effect which may appear to be purely cellular. We may presume that, in the silent phase, a subliminal infiltrate is occurring which controls the progress of the disease and dictates the structure of the lesions as yet invisible.

A peculiar variant illustrated in Figure 2 and Text-fig. 2D is characterized by groups or clusters of minute macules, some of which are arranged irregularly in rings suggesting the dotted outlines of tuberculoid patches with resolved centers. The individual spots are flat or slightly raised macules, and the histology shows some tuberculoid differentiation in the infiltrate. Nerve involvement and sensory loss is present, and there is some asymmetry. In other words, the grouping of macules is associated with a tendency towards the tuberculoid pole. It would appear that the distribution of the main groups is determined by relatively few hematogenous metastases, but that spread from the sites of lodgement occurs, not evenly on an unbroken front, but by separate spear-heads of infiltration or by lymphatic forward leaps, the whole picture being confused by embolic metastatic spots of random distribution.

HISTOPATHOLOGY

The exudate in indeterminate leprosy is of nonspecific chronic inflammatory type, consisting of round cells (lymphocytes and plasma cells), and perhaps some histiocytes. It is distinguishable from other chronic inflammations only by its concentration around nerve twigs, which in turn are most numerous around blood- and lymph-vessels and the pilo-sebaceous structures. This distribution gives the infiltrate a trabeculate arrangement which is almost pathognomonic of leprosy. The indeterminate diagnosis is challenged if foci of epithelioid cells, with or without giant cells, are encountered, or if scattered histiocytes with minute vacuoles occur, depending on which pole the leprosy inclines to. If both are found in the same biopsy or in separate biopsies from the same patient, the case is classified in our work as histologically dimorphous. When such cases are clinically maculoid, as is by no means infrequent, the Madrid classification is inapplicable. Frequently, however, sections prove to contain a profusion of macrophages, indicating the commencement of a differentiation and prompting a tentative diagnosis of incipient lepromatous leprosy—not always in keeping with the clinical picture! It must be stressed that scientific confirmation of the type and over-all state of the leprosy requires as many biopsies as there are varieties of lesion in a given patient, and that a single biopsy may be quite inadequate.

SUMMARY AND CONCLUSIONS

The diagnostic criteria of indeterminate leprosy as laid down by the Havana Congress in 1948 are critically examined, and it is concluded that none *per se* can be considered pathognomonic with perhaps the exception of the histopathologic picture, provided that the diagnosis of leprosy is beyond doubt, that the leprosy is not in the phase of resolution, and that sufficient biopsies have been made. By the Havana criteria strictly applied, only 1 per cent of the leprosy cases occurring among the Bantu people of Nyasaland can be classified as indeterminate. So many factors modify the clinical picture that a "typical" case is indeed a rarity.

For every case of macular appearance which can confidently be assigned to the indeterminate group there are many which do not fulfill the stated criteria. Histologically, some of these show low-grade tuberculoid changes (with clear *pars papillaris*), but a large proportion present evidence of degenerating immunity. This is best seen clinically when a sequence of primary and secondary lesions exists.

The clinical and histologic signs of this degeneration are less dramatic than those seen in the often turbulent picture of true borderline leprosy, with its striking "T?L" appearance. Such cases have been excluded from consideration in this paper, because the lesions dealt with are flat macules.

If the lesions are all of the same vintage, visible evidence of any former state of higher resistance will be less obtrusive, and yet the case may well be in transition and no longer indeterminate. It is suggested that transitional cases of macular appearance be designated the "*maculoid* variety" to distinguish them from simple indeterminate and to indicate that they are of mixed histology.

RESUMEN Y CONCLUSIONES

Se estudian analíticamente las pautas de diagnóstico para la lepra indeterminada, dictadas por el Congreso de La Habana en 1948, deduciéndose que ninguna de ellas puede considerarse diaerética con la posible excepción del cuadro bacteriológico, con tal que el diagnóstico de lepra sea indubable, que la lepra no se halle en la fase de resolución y que se hayan ejecutado suficientes biopsias. Según los patrones de La Habana ígicamente aplicados, sólo 1 por ciento de los casos de lepra que ocurren entre los Bantús de Niasalandia pueden clasificarse como indeterminados. Son tantos los factores que modifican el cuadro clínico que un caso "típico" es en verdad una rareza.

Por cada caso de aspecto macular que cabe asignar confiadamente al grupo indeterminado, hay muchos que no cumplen las pautas fijadas. Histológicamente, algunos de ellos revelan alteraciones tuberculoideas poco intensas (con la *pars papillaris* despejada), pero una elevada proporción muestra signos de inmunidad degenerativa. Esto se observa mejor clínicamente cuando existe una combinación de lesiones primarias y secundarias.

Los signos clínicos e histológicos de esta degeneración son menos teatrales que los observados en el cuadro a menudo turbulento de la lepra limítrofe con su notable aspecto de "T?L". Esos casos han sido excluidos de consideración en este trabajo porque las lesiones estudiadas son manchas planas.

Si todas las lesiones pertenecen al mismo lote, los signos clínicos de todo estado anterior de mayor resistencia serán menos aparatosos, y sin embargo, el caso puede estar en un período de transición sin ser ya más indeterminado. Se sugiere que a los casos de aspecto macular se les designe como "variedad maculoidea" para distinguirlos de los puramente indeterminados e indicar que son de histología mixta.

SOMMAIRE ET CONCLUSIONS

Les critères diagnostiques de la lèpre indéterminée, tels qu'ils ont été posés au Congrès de La Havane, en 1948, sont passées au crible. On en conclut qu'aucun de ces critères, par soi-même, ne peut être considéré comme pathognomonique, à l'exception peut-être du tableau histopathologique, et encore à condition que le diagnostic de lèpre ne fasse aucun doute, que la maladie n'en soit pas à un stade résiduel, et que des biopsies aient été faites en nombre suffisant. Les critères de La Havane sont-ils appliqués rigoureusement, que 1% seulement des cas survenant chez des Bantous du Nyasaland peuvent être classés comme indéterminés. Tant de facteurs modifient le tableau clinique qu'un cas typique est, à vrai dire, une rareté.

Pour chaque cas maculaire pouvant être résolument rattaché au groupe indéterminé, il en est beaucoup qui ne répondent pas aux critères imposés. Au point de vue histologique, certains de ceux-ci présentent des modifications tuberculoïdes légères (avec pars papillaris claire), mais une grande proportion présente les signes d'une immunité qui dégénère. Cliniquement, ceci est le plus facilement constaté lorsqu'il existe une succession de lésions primaires et secondaires.

Les manifestations cliniques et histologiques de cette dégénérescence sont moins dramatiques que celles notées dans le tableau souvent bouleversé de la lèpre border-line, avec son aspect frappant "T ? L." De tels cas ont été exclus de cette étude, car les lésions qui ont retenu notre attention sont les macules planes.

Si toutes les lésions sont du même âge, la mise en évidence parmi elles d'une quelconque manifestation antérieure de plus grande résistance sera moins embarrassante, et le cas peut bien dès lors être en transition, et non plus indéterminé. La suggestion est émise que les cas présentant des manifestations maculaires soient désignés sous le terme "variété maculoïde" pour les distinguer des simples indéterminés et afin d'indiquer que leur aspect histologique est mélangé.

Acknowledgment.—I wish to thank Dr. P. R. Stephens, Director of Medical Services, Nyasaland, for permission to publish this paper. I am grateful to Dr. H. W. Wade for aid in the preparation of the introductory historical review of classification.

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