THE MACULOANESTHETIC FORM OF LEPROSY

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INTRODUCTION

The subjects of terminology and classification of the various forms of leprosy have received much attention since 1931, when the first attempt to evolve an international system of classification was made by the Round Table Conference convened in Manila by the Leonard Wood Memorial (1). Since then the matter has received serious consideration at all of the four International Congresses of Leprology (Cairo, 1938; Havana, 1948; Madrid, 1953; and Tokyo, 1958), and at many other conferences and meetings. In spite of all efforts, however, unanimity in all features of this matter has not been attained.

The two main points of difference of opinion at present concern two groups of cases: (1) those with the flat anesthetic patches (maculoanesthetic), and (2) the pure polyneuritic kind. These two groups were considered *inter alia* by the Classification Committee of the Tokyo Congress (9), but no decision was arrived at because of lack of agreement; the matter was left to the discretion of the individual leprologists.

The WHO Expert Committee on Leprosy (19), in its second report, took note of this situation and made the following recommendation:

> The Committee feels that consideration of the proposal made at Tokyo (namely, that recognition be given to two other subordinate "groups," maculo-anaesthetic and pure polyneuritic—the former involving reconsideration of the position of all simple macular lesions) may have been handicapped by lack of understanding, on the one hand of precisely what those groups would consist, and on the other hand of how their recognition would affect the basic principles of classification. It is recommended that the advocates of those changes publish their views and the reasons for them and their opponents publish their objections in the near future, so as to permit full consideration of the arguments before the Eighth International Congress is held in Brazil in 1963.

In view of this recommendation, Dharmendra and Chatterjee (14) published an article on the subject of maculoanesthetic leprosy, of which the present paper is a somewhat condensed modification, illustrated with clinical pictures and photomicrographs. It is proposed to take up the subject of the pure polyneuritic case later.

First, the main characteristics of the maculoanesthetic lesions are described, then their differentiation from other macular lesions of leprosy is considered, and finally their nomenclature and place in a system of classification is discussed. It is pointed out that the word "macule" is used here in its dermatologic sense of a flat lesion without elevation;

the loose practice of applying that word to all kinds of skin patches of leprosy, including the thick raised ones, should be discouraged.[1]

THE MAIN CHARACTERS OF THE MACULOANESTHETIC LESIONS

The maculoanesthetic lesion is essentially a hypopigmented macule (in the restricted sense), typically well-defined, and—this being a particularly distinctive feature—distinctly anesthetic. In detail:

1. *Morphologic characteristics.*—The lesions consist of flat, hypopigmented, anesthetic or hypoesthetic areas of skin, which vary in size, number and location. Their morphologic characters, some of which are illustrated in Figs. 1 to 6, may be described as follows:

(*a*) Number: There is much variation in this respect; there may be only a single patch, or there may be several. At most, however, they are not very numerous nor widely distributed on the body, and they are not symmetric.

(*b*) Size: In this feature, also, there is great variation. The lesions may be as small as a quarter-inch in diameter, or big enough to cover a large part of an extremity, or most of the back or chest. Usually, however, they are of moderate size.

(*c*) Location: The patches are found most commonly on the face, the lateral or dorsal aspects of the extremities, and the back, buttocks and scapulae, but they may occur anywhere on the body.

(*d*) Color: The patches are hypopigmented, lighter in color than the surrounding skin. The loss of pigmentation is only partial, not total as in the case of leucoderma; the patches are therefore pale as compared to the surrounding skin but not absolutely white. In some cases hypopigmentation may be masked by erythema or hyperpigmentation, or by scars caused by application of caustic preparations as local treatment. In regressing lesions, whether due to treatment or spontaneous healing, the hypopigmentation tends to decrease progressively.

DESCRIPTION OF PLATE

FIGS. 1-6. Typical maculoanesthetic lesions in common sites. All of these lesions were flat, well-defined, hypopigmented, and showing loss of impairment of sensation. All were bacteriologically negative.

FIG. 1. A single lesion on the face of a girl of 12 years. Duration 6 months.

FIG. 2. A single lesion on the chest of an adult male. Duration about 2 years. In such a lesion one might press a pin deeply without eliciting the slightest sensation of pain.

FIG. 3. A single lesion on the lower part of the back, above the buttock, in a female child of 6 years. Duration 2 years.

FIG. 4. A single lesion on the anterior aspect of thigh in a male child of 7 years. Duration 2 months.

FIG. 5. Lesion on the left abdomen of a female child of 14 years; duration 9 years. Two other lesions are present, one in the midline of the back and the other on the right abdomen (seen at the left edge of the picture, near the navel).

FIG. 6. A number of lesions on the back of an adult man. Duration several years. Note asymmetrical distribution. (The lesion at the extreme left was marked for biopsy.)

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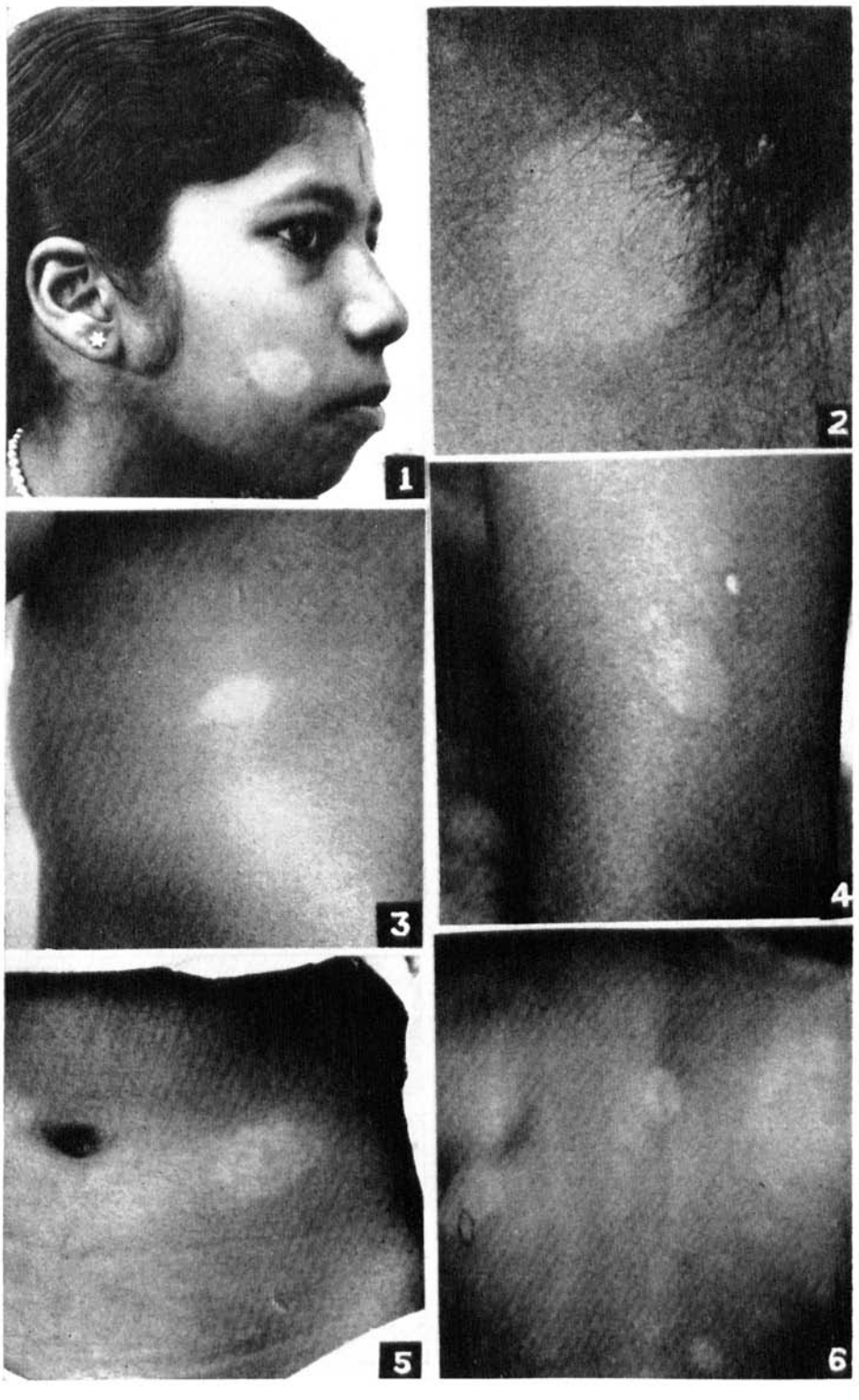
[1]Hansen and Looft (15), who wrote before tuberculoid leprosy was recognized, applied maculoanesthetic in a wide sense, including all patches, flat or thick, in which there was anesthesia.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(*e*) Surface: The surface is uniformly flat, without any irregularity or pebbling. It is dry, due to impairment of sweat and sebaceous secretions. Usually there is loss of hair, and those present are stunted and friable; occasionally small black dots represent the remnants of hair shafts.

(*f*) Outline: The outlines of the patches are well-defined, a characteristic to be emphasized. As the patches undergo healing and become residual, however, their outlines may become progressively ill-defined.

(*g*) Thickening: The patches have no perceptible thickening; they are flush with the surface of the surrounding skin, without elevation in any part of them.[2]

2. *Sensory changes.*—Loss or diminution of cutaneous sensibility is a prominent feature of this type of lesion, except for those on the face; it is most marked in patches on the extremities, less marked in those on the trunk, and least marked in those on the face. Sensations of light touch, pain, and temperature are affected, the last two usually being affected earlier than that of light touch. The sensory change is more marked at the center of a patch than at the periphery.

3. *Thickening of nerves.*—Cutaneous nerves supplying the area in which the patches are situated may be slightly thickened, but this is seen less frequently than in case of the tuberculoid patches. Peripheral nerve trunks are sometimes involved, giving rise to polyneuritic changes (asymmetric) which result in the usual sensory, motor, and trophic changes peripherally.

4. *Bacteriology.* — Results of bacteriologic examinations of the patches by the routine "scraped incision" method are almost always negative. In cases with active lesions, a few bacilli may sometimes be found, especially by the concentration method.

5. *Histologic characteristics.*—Histologically this type of lesion usually presents the picture of slight banal or nonspecific perivascular and perineural infiltration, mostly of small round cells, with perhaps some scattered epithelioid cells, usually nonfocalized. There is nothing

DESCRIPTION OF PLATE

FIG. 7. Small focal infiltrates of mononuclear cells in the papillary layer of the dermis, around blood vessels and in the neurovascular hilae. Duration of lesion 9 years. Magnification 60×.

FIG. 8. Infiltrates of mononuclear cells in the papillary layer of the dermis. Duration of lesion 3 years. Magnification 80×.

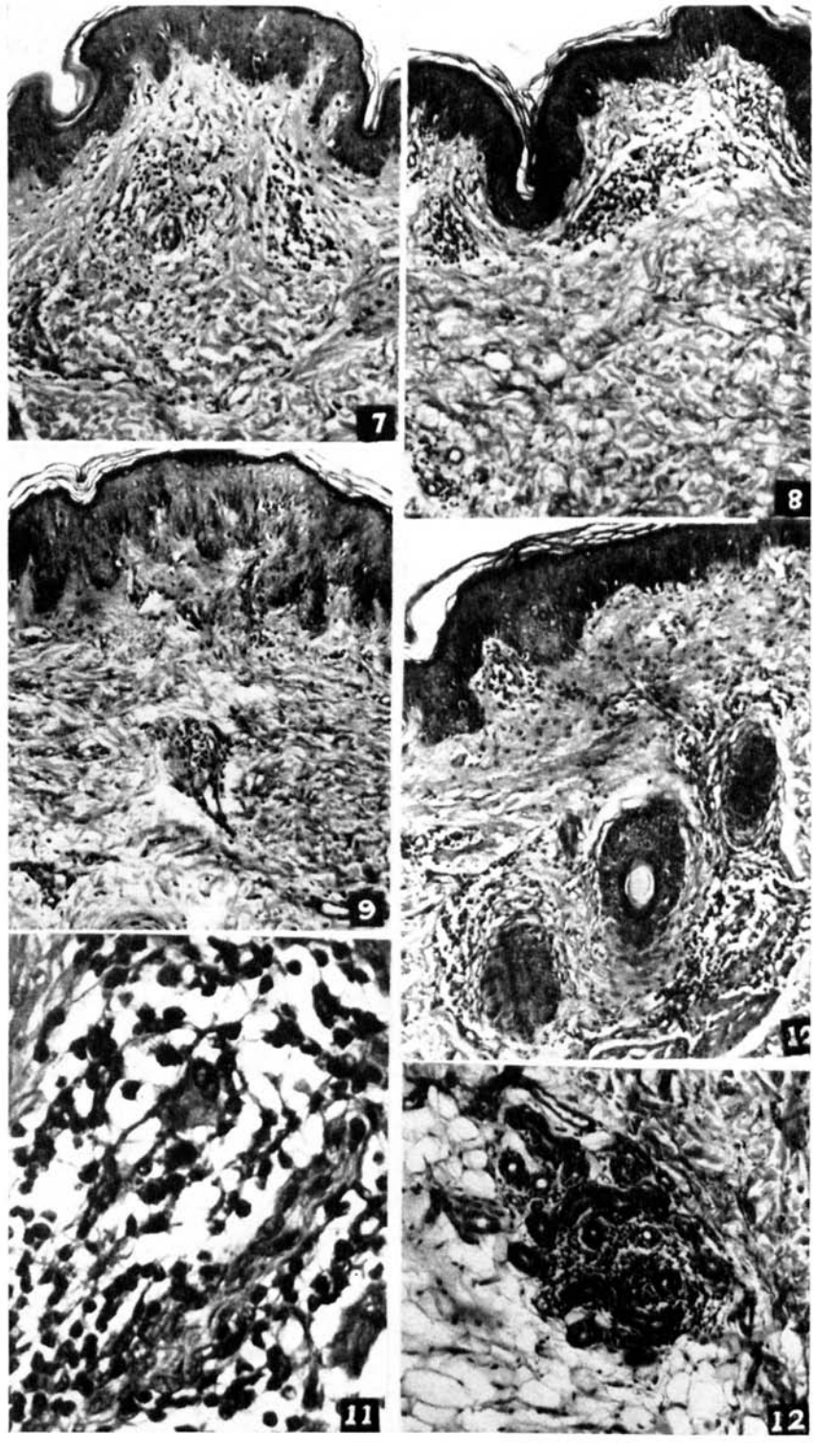
FIG. 9. A few foci of mononuclear cells in the dermis, around blood vascular and neurovascular hilus. Duration of lesion, 2 years. Magnification 80×.

FIG. 10. Focal infiltrate in relation to appendages of the skin—hair follicle and sweat ducts. Note loose focus in lower right. Duration of lesion, 4 months only. Magnification 60×.

FIG. 11. A portion of infiltrate in Fig. 10 enlarged, showing a central giant cell surrounded by loosely arranged cells, probably epithelioid. An infiltrated and disturbed nerve twig is also seen, lower right. Magnification 400×.

FIG. 12. Cellular exudate in relation to a sweat-gland coil in the deeper part of the dermis. (See Fig. 13.) Duration of lesion, 2 months only. Magnification 60×.

[2]If there is any perceptible thickening, the patch is no longer a "maculoanesthetic" lesion, but one of "minor tuberculoid" nature.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characteristic of leprosy in this picture except for the endoneural infiltration which is usually present, and the occasional presence of very scanty leprosy bacilli inside the nerve branches. The main histologic findings in maculoanesthetic lesions are illustrated in Figs. 7 to 18.[3]

Infiltrates of small round cells are arranged mostly in perivascular (Figs. 7-9) and perineural (Figs. 14-18) locations; also in connection with the skin appendages—the hair follicles (Fig. 10) and sweat glands (Fig. 12). In addition to the perineural infiltrates, there is usually some endoneural infiltration. Small numbers of epithelioid cells may be present, but usually there is no focalization to form tuberculoid follicles, and no Langhans' giant cells. Occasionally, however, there may be found small foci of low-grade tuberculoid activity, with collections of a few epithelioid cells and perhaps a small giant cell or two (Figs. 11 and 14). A few leprosy bacilli may be found among the nerve fibers; rarely a few may also be found outside the nerves, in other parts of the section.

Usually there is no evidence of the age of the lesion from which a specimen was taken. For example, the age of the lesion represented in Fig. 7 was recorded as 9 years, that in Fig. 8 as 3 years, and that in Fig. 9 as 2 years. However, the lesions in which there are subtuberculoid foci (Figs. 10 and 11, and Figs. 13 and 14) were only 4 and 2 months old, respectively.

6. *Lepromin reaction.*—The reaction to lepromin is usually positive, although only moderately so in most cases.

7. *Evolution.*—This form of the disease is essentially benign, slowly progressive, the lesions relatively stable. In a vast majority of cases the disease is self healing; the patches undergo subsidence after reaching their maximum in size and number and then remaining stationary for varying periods. After subsidence they usually leave some slight residual, pigmentary change, or some loss of sensation.

DESCRIPTION OF PLATE

FIG. 13. Portion of the infiltrate shown in Fig. 12; a small group of epithelioid cells surrounded by mononuclear cells centrally in the coil gland. Magnification 400×.

FIG. 14. Slight round-cell infiltration around and in a nerve twig, of which the normal outline and fiber structure is maintained. (From the same 3-year lesion as Fig. 8.) Magnification 400×.

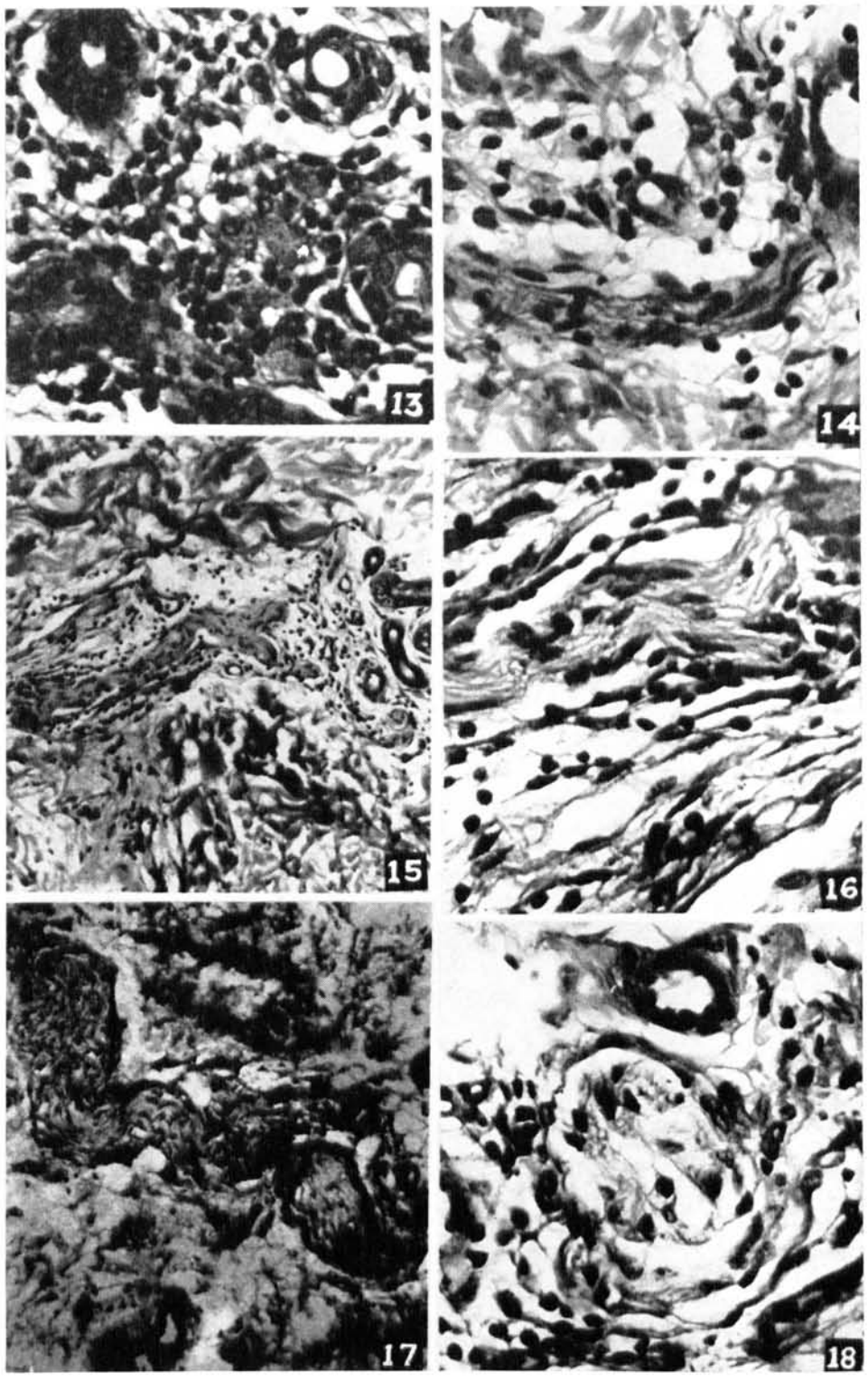
FIG. 15. Oblique longitudinal section of a small nerve in mid-dermis. Mononuclear-cell infiltration, both around and inside the nerve. A portion of a sweat gland is seen to the right. (From the same 9-year lesion as Fig. 7.) Magnification 60×.

FIG. 16. Enlarged view of the nerve twig in Fig. 15, to show the type of cells infiltrating the nerve. Magnification 400×.

FIG. 17. Oblique longitudinal section of a medium-sized nerve branch in the depths of the dermis, showing moderate infiltrate by mononuclear cells. (From the same 2-year lesion as Fig. 9.) Magnification 400×.

FIG. 18. Transverse section of a small nerve twig in the neurovascular hilus. Note the mononuclear-cell infiltration both around and within the nerve. (From the same lesion as Fig. 17.) Magnification 400×.

[3]For the histologic sections and reports, thanks are due to Dr. C. G. S. Iyer, head of the Division of Laboratories in this Institute. The reports were based on paraffin sections of tissue fixed in neutral formalin, stained with hematoxylin and eosin.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In a small proportion of cases, however, before subsidence can occur there is an increase of activity; the lesions become thickened in varying degrees, transforming to the tuberculoid condition with the characters of that type. In a few instances, on the other hand, the nature of the condition changes to lepromatous, and the disease progresses as of that type, with erythematous, ill-defined, shiny, bacillated lesions.

DIFFERENTIATION FROM OTHER MACULAR LESIONS OF LEPROSY

In leprosy there are flat lesions of other kinds that have to be differentiated from the maculoanesthetic kind, which characteristically are well-defined, hypopigmented, and anesthetic. These other lesions are of the following three categories: (1) Macules of the indeterminate group. (2) Macular lesions of the lepromatous type. (3) Residual lesions resulting from the subsidence of elevated patches of the tuberculoid and lepromatous types and the borderline form.

(1) *Differentiation from macules of the indeterminate group.*—This differentiation offers real difficulties, firstly, because the macules of the two forms have various points of similarity, and secondly, because the term "indeterminate" has been used with different meanings. Here the term is used in the distinctive sense as applied particularly by the Indian leprologists to designate the kind of macules which differ from the maculoanesthetic lesions in certain important respects. These points of differences are brought out in the following tabulation.

It may be said that, compared to the maculoanesthetic lesions, those of the indeterminate form are usually: (*a*) more numerous, widely distributed, and tend to be symmetric; (*b*) smaller in size; and (*c*) ill-defined, with hazy outlines. Sensory changes may be slight or absent; not infrequently, of the several patches, only a few may show loss or impairment of sensation. Bacteriologically, by the scraped-incision method the lesions are often quite negative, although in some cases they may show a small to moderate number of bacilli, perhaps in some of the patches only. With more elaborate methods of examination, bacilli will be found in all cases, especially within the nerves.

Histologically, the picture may be that of nonspecific infiltration; or pretuberculoid, with nests of epithelioid cells; or it may be prelepromatous, the predominant cells then being macrophages possibly with some vacuolation and bacilli. Usually there is no infiltration inside the nerves, but bacilli may be present between the nerve fibers.

Finally, from the point of view of evolution of the disease, cases with lesions of the indeterminate form are in general very unstable. Some may become established as maculoanesthetic, or pass on to the tuberculoid type, but a large proportion of them change to the lepromatous type.

(2) *Differentiation from the lepromatous macular lesions.*—In this instance the differentiation is not difficult. The flat lepromatous lesions

are notably erythematous, usually with relatively slight hypopigmentation; typically, the surfaces are smooth and shiny; in numbers they may increase from a single primary macule to become numerous before they progress to become definite infiltrations; when numerous, the

TABLE 1.—*Characters of maculoanesthetic and indeterminate lesions.*

Maculoanesthetic	Indeterminate
Size: Variable but usually moderate, neither very small nor very large.	Variable, usually smaller on the average than maculoanesthetic.
Number: Usually a few, may be solitary; sometimes several.	Usually large numbers; sometimes in small numbers.
Distribution: Usually not widely distributed on the body; not symmetrical.	Usually widely distributed and symmetrical.
Color: Hypopigmented, usually uniformly; hypopigmentation may be masked by other factors.	Hypopigmented, or erythematous, or mixed.
Thickening: Flat, truly macular; no history of having been thickened.	Flat macular usually, but perhaps with some thickening.
Surface: Dry.	Not dry.
Margin: Usually well defined.	Not so well defined, often vague.
Loss of sensation: Anesthesia a prominent feature.	Anesthesia not a constant feature; if present, comparatively slight.
Thickening of associated nerves: May be present.	Usually absent; if present, only slight.
Polyneuritic changes: Not common. When present, unilateral.	Not usual.
Bacteriology: Almost always negative by usual method; a few bacilli may be found in occasional cases.	Usually positive; scanty to moderate number of bacilli found in at least some of the lesions.
Lepromin reactivity: Usually positive, although only moderately so.	Usually negative or weakly positive.
Evolution: Relatively stable and benign. Lesions usually remain true to type, and in due course undergo subsidence, perhaps with some residual changes. In an occasional case lesions may become thickened and clinically tuberculoid; the change to lepromatous is rare.	Very unstable. Some cases change to the maculoanesthetic or the tuberculoid forms; quite a large proportion change to lepromatous.
Histology: May be nonspecific or sometimes pretuberculoid. (1) Nonspecific banal, consisting of infiltration of small round cells, and a sprinkling of epithelioid cells around blood vessels, nerve twigs, and skin appendages. (2) Pretuberculoid, in addition to the above picture a few small foci of epithelioid cells and rarely small giant cells. In addition to perineural infiltration there is usually some endoneural infiltration. Occasionally, a few bacilli may be found among the nerve fibers.	May vary to some extent in the various lesions. It may show (1) Nonspecific banal infiltration as in the maculoanesthetic lesions, but without or with fewer epithelioid cells. (2) Pretuberculoid, with nests of epithelioid cells and possibly a few small giant cells mixed with small round cells. (3) Prelepromatous, where the predominant cell may be a macrophage containing bacilli and possibly with some vacuolation. Usually no or very little endoneural infiltration, but a fair number of bacilli may be present among the nerve fibers.

macules are widely distributed and symmetric. They are not anesthetic, and there is no thickening of associated cutaneous nerves. Bacteriologically, these early or slight lepromatous lesions are positive, but typically moderately so at most. The lepromin reaction is negative.

Histologically the macular lepromatous lesion, if early, presents collections—mostly perivascular in the affected areas—of macrophagic histiocytes some of which contain bacilli, thus becoming "lepra cells." These cells may be entirely without vacuoles which represent globi, but in parts of the infiltrates such vacuoles may be numerous. The bacilli may be numerous in the intact, nonvacuolated macrophages, but are generally more so in the vacuolated cells. Foam cells represent a later development, evidencing chronicity, and are much more likely to be found in clinical infiltrates than in macules. There is little or no endoneural infiltration affecting the dermal nerve branches, although bacilli may be found in them.

(3) *Differentiation from residual lesions.*—A history of previous thickening and elevation should be sought. The surface of such a patch may show evidence of previous thickening in the form of wrinkling, or possibly fine scaling. While the patch in general is hypopigmented, the center may be normal looking or even hyperpigmented. The subsided tuberculoid patch will be well defined, anesthetic, and bacteriologically negative; the residual patches from lepromatous and borderline lesions are poorly defined, usually without any sensory changes, and remain bacteriologically positive for a considerable time after subsidence. Reaction to lepromin will be positive in case of the residual tuberculoid patches, but usually negative or doubtful in the other form.

Histologically, in the subsided tuberculoid lesion the picture will be mainly nonspecific round cell infiltration, with perhaps a few residual tuberculoid foci; the nerves, if recognizable, will still show remnants of perineural and endoneural infiltration. In the other form the infiltration will be mainly nonspecific, but in lepromatous cases old foam cells persist long after subsidence; nerves will not show appreciable endoneural infiltration, but there may be considerable perineural proliferation, with perhaps some infiltration persisting.

TERMINOLOGY

From the foregoing description, it will be apparent that the maculoanesthetic lesions form a distinct clinical entity. They stand apart from the flat lesions of indeterminate group and the lepromatous type, and from the residual flat lesions resulting from the subsidence of the lesions of the various types of leprosy.

The existence of these lesions as a distinct form of the disease has long been recognized, although there appear to be regional differences in their frequency and therefore in their relative importance in practical experience. Further, there are some differences in the nomenclature

of this form, and in the place assigned it in classification. It is proposed to discuss this matter here.

The maculoanesthetic lesions are seen frequently in India, and in consequence they have been studied there to a considerable extent. They are recognized as one of the important forms of the disease in this country. At the first of the All-India Leprosy Workers Conferences ([4]), and in the next year at the International Leprosy Congress at Havana ([7]), Dharmendra ([10, 11]), advocated the term "maculoanesthetic" to designate the lesions under discussion. These lesions have been studied repeatedly since then, by Dharmendra *et al.* ([12]), Dharmendra and Chatterjee ([13,14]), and Mukerjee and Ghosal ([16]). At the Eighth All-India Leprosy Workers Conference held at Hyderabad in January 1962 ([5]), it was agreed that the lesions under discussion formed a distinct clinical entity and that the term maculoanesthetic was an appropriate one to designate them.

Now to review briefly the history of this class of lesions in formal classification. At the International Congress held in Cairo in 1938 ([6]), the "macular" subtype of neural leprosy was divided into two varieties, simple (with flat macules) and tuberculoid (minor and major). It is obvious that the "simple macular" form included both the maculoanesthetic and the indeterminate lesions as now known. When the name of the "neural" type was changed to "tuberculoid," the simple macular variety lost its status of equality, and since then it has been variously designated. The Second Pan-American Conference ([2]) included it in the *incaracteristico* form. That name was changed at the Havana Congress to "indeterminate," which was designated as a group.

The view was expressed at that time that the maculoanesthetic lesions might be removed from the indeterminate group and placed in the tuberculoid type as its macular variety. That was not officially done at that time, but it was done by the Third Pan-American Conference ([3]).

The First WHO Expert Committee on Leprosy ([18]) ignored the view that the maculoanesthetic variety should be classed in the tuberculoid type, but it was not helpful otherwise. It said,

> The indeterminate form consists essentially of the "simple macular" cases and comprises those cases previously known as "maculoanesthetic."

Indian leprologists have never agreed with this definition. The indeterminate group obviously cannot be used as synonymous with the maculoanesthetic form, as it includes other kinds of "simple" macules. Moreover, the term "indeterminate" is not appropriate for designating maculoanesthetic lesions, as there is nothing indeterminate about them.

A contrary view was taken by Wade ([17]), and by Dharmendra and Chatterjee ([13]). They advocated the adoption of a separate group, "maculoanesthetic," in addition to the indeterminate one of the Havana classification, with corresponding restriction of the application of the latter term.

At the Madrid Congress, in 1953 ([8]), the position of the WHO Expert Committee in this matter was not upheld; the distinct character of the maculoanesthetic variety was recognized—but only in a way. As proposed by the Third Pan-American Conference, there was recognized a "macular" variety of the tuberculoid type. The term maculoanesthetic does not appear in that connection, but the brief description of the lesion unmistakably pertains to that form.

A vigorous note of dissent at the inclusion of the maculoanesthetic variety in the tuberculoid group was included as an addendum to the report of the Classification Committee by one of its members (Wade), and that dissent reflected the views of the Indian workers as well. It was recalled that classification is primarily clinical, that tuberculoid cases are marked by some degree of elevation of the lesions, and that to include in that type any variety of the "simple macular" cases would create confusion.

> Agreeing fully that those cases which have become established in the "maculoanesthetic" form should not be retained in the "indeterminate" group, he holds that they should be recognized as a separate "group," a view which is in accord with the conclusions of a special classification committee recently set up by the Indian Association of Leprologists.

At the Tokyo Congress this question was again discussed, but no decision reached. The Classification Committee wrote:

> The Committee has been unable to arrive at agreement with reference to the maculoanesthetic lesions. The Indian group of leprologists hold that these lesions, because of their distinctive clinical entity and their relative frequency in India, should be placed in a separate category to be styled the *maculoanesthetic group*. In their opinion they are not tuberculoid lesions, and therefore should not be considered as belonging to that polar type. On the other hand the Latin-American leprologists are of the opinion that these lesions present sufficiently clear features to be included in the tuberculoid polar type. A decision with reference to this matter must, we feel, be left to the discretion of the individual leprologist, and the Committee makes no recommendation.

This leaves the matter as it was after the Madrid Congress; the maculoanesthetic lesions are still "officially" regarded as the macular variety of the tuberculoid type. At the other extreme, some workers still hold that these lesions belong to the indeterminate group of the Havana-Madrid classification.

Here I would like to discuss the suitability of the term maculoanesthetic and the designation macular tuberculoid as applied to the kind of lesions in question. From the clinical point of view, maculoanesthetic very aptly describes the lesion; it indicates its morphology (a macule in the true dermatologic sense) and its main characteristic feature (the presence of anesthesia). To call this kind of lesion macular tuberculoid does not describe its clinical character; on the contrary, it is anomalous since it means a flat lesion that has elevation; Even histologically the term is not apt, for in at least half of these flat lesions the microscopic

picture is simply that of chronic banal infiltration, and in the other half no more than pretuberculoid changes are found.

This difference in terminology is, however, only a minor one, and should not prove insurmountable. Even if the use of the two designations is continued until a generally-acceptable single term for these lesions is found, the confusion in terminology can be minimized by a clear understanding that both designations refer to one and the same type of lesion—flat, well-defined, hypopigmented, typically bacteriologically negative, and with loss or impairment of sensation.

CLASSIFICATION OF THE MACULOANESTHETIC LESIONS

As would have been obvious from the foregoing discussion, apart from the differences in nomenclature of the lesions under reference, there is an associated difference in their classification according to the Madrid and the Indian classifications. According to the Latin-American workers these lesions (called macular tuberculoid) belong to the tuberculoid type, and therefore in the Madrid classification they are included as the macular variety of tuberculoid leprosy. According to the Indian workers, these lesions form a distinctive clinical entity apart from the tuberculoid, and therefore in the Indian classification they have been allotted a separate place under the designation of maculoanesthetic.

It has been agreed from the outset that the basic criteria for primary classification should be clinical. This would be apparent from the decisions of the various International Congresses on Leprosy and of the WHO Expert Committee on Leprosy. In the Cairo classification the main criteria were clinical, including the bacteriologic findings. In the Pan-American classification greater emphasis was placed on the histologic characteristics, and the immunologic factor as represented by the lepromin reaction was introduced. At the Havana Congress, in an attempt to reconcile and unify the two discordant systems, the following criteria were laid in diminishing orders of availabilty: (1) clinical, (2) bacteriologic, (3) immunologic, and (4) histopathologic. At its first session the WHO Expert Committee on Leprosy clearly stated the view "that the basic criteria of primary classification should be clinical, comprising the morphology of skin lesions and neurological manifestations." The bacteriologic examination was considered an essential part of the clinical criteria. These views have been endorsed by almost everybody, and highlighted at the two international congresses on leprosy (Madrid and Tokyo) that have been held since then. At its second meeting the WHO Expert Committee once again express emphatically "that in classification priority should be given, as in the past, to the clinical criteria (including the bacteriological findings when that examination can be made)."

I believe that the classification of the lesions under discussion accord-

ing to the Indian classification is more in keeping with the generally-accepted criteria for primary classification. From the clinical point of view the maculoanesthetic lesions constitute a form separate from the tuberculoid. Their inclusion in the tuberculoid type can be explained only by the histologic criterion being given more importance than the clinical, since in about one-half of these cases histology shows a tendency to formation of pretuberculoid foci, whereas on the other hand the histopathologic picture is that of chronic banal nature. Thus, even from the histologic point of view, their inclusion under the tuberculoid type is not apt, since there is often no tuberculoid element in the histopathology.

Regarding the relationship of these "simple flat" lesions—i.e., the maculoanesthetic kind—to the tuberculoid lesions, it is agreed by all that from the immunologic and prognostic points of view the two are closely allied, both being of benign nature. It is also unanimously agreed that this relationship should be appropriately indicated in the classification of the disease. One obvious way of achieving this object is to include both types of lesions in one broad group, and that is what has been actually done in both the Madrid and the Indian classifications, although different terms have been used for the broad group in the two systems. In the Madrid classification the use of a separate term for the broad group is not called for, since the flat patches (designated as macular tuberculoid) are included in the tuberculoid type along with the lesions that show elevation (the minor and major varieties of tuberculoid). In the Indian classification the flat lesions (designated as maculoanesthetic) and lesions with elevation (designated minor and major varieties of tuberculoid) are included in a broad group called "nonlepromatous," in contrast to the lepromatous which includes the malign forms of the disease.

I hold that the term "tuberculoid" which may be suitable for the lesions with elevation, is not suitable for the group containing both the elevated and the simple flat lesions. On the other hand, the term nonlepromatous is considered more suitable for the benign forms of the disease as against lepromatous for the malign forms. I am, however, aware of the objections raised against the use of the term nonlepromatous for this purpose. Possibly a more suitable term may be found to be used in place of or as a synonym of the term nonlepromatous.

In conclusion, I would like to stress that the differences in the points of view of the Indian and the Madrid classification are only slight, and that these differences should not be unnecessarily magnified. What is really necessary is to try to understand each other's point of view and to reconcile the minor differences.

Until such a solution is found, however, and while the use of two different terms is continued, at least two things should be done to avoid or minimize confusion. Firstly, as already stated, it should be clearly

recognized that the macular tuberculoid variety (of the Madrid classification) and maculoanesthetic (of the Indian classification) refer to one and the same type of lesion. Secondly, for the purpose of special investigations and for collecting data for subsequent analysis, macular tuberculoid (Madrid) or maculoanesthetic (Indian) should be listed separately from the other components of the tuberculoid type (in case of the Madrid classification) or of the nonlepromatous type (in case of the Indian classification), respectively. This is essential because of the differences in the so-called macular tuberculoid variety and the other components of the tuberculoid type regarding such matters as the extent of nerve involvement and consequent deformities, the evolution and course of the disease, and the response to treatment. I feel that with attention to this little matter of detail, data could be collected from various countries which would be comparable even without making any change in the nomenclature and the system of classification that is being followed at present.

SUMMARY

1. A detailed description is given of the form of leprosy characterized by the presence of flat, hypopigmented, well-defined, bacteriologically negative patches, with loss or impairment of sensation. In the Indian classification the term "maculoanesthetic" is applied to this form of the disease.

2. The flat patch of the maculoanesthetic form is differentiated with some difficulty from the flat patches of the "indeterminate" group. It is easily differentiated from the macular lesions of lepromatous type, and from flat residual areas remaining after the subsidence of the elevated lesions of the tuberculoid, lepromatous and borderline types.

3. The maculoanesthetic form of leprosy corresponds to the so-called macular variety of the tuberculoid type of the Madrid Congress classification. In order to minimize confusion it is necessary to have a clear understanding on this point.

4. The difference in the terminology applied to this form of the disease in the two systems of classification is considered to be a minor difference. It should not be unnecessarily magnified, and efforts should be made to understand the two different points of view. With mutual understanding it should be possible to evolve a unanimously-agreed terminology and classification, since there are no basic differences involved.

5. It is considered that, even with the existing differences, it should be possible to collect data for comparative studies from different countries. Because of the manifest differences between the macular variety of the tuberculoid type and the other components of that type, it is essential that the flat patches be separated from the elevated lesions of the type. Thus, in countries using the Indian classification data should

be collected separately for the maculoanesthetic and the tuberculoid lesions, and in countries using the Madrid classification data should be collected separately for the macular tuberculoid and the other varieties of the tuberculoid type.

RESUMEN

1. Se ofrece una reseña pormenorizada de la forma de lepra caracterizada por la presencia de placas planas, hipopigmentadas, bien definidas, bacteriológicamente negativas, con pérdida o menoscabo de la sensación. En la clasificación india aplícase el término de "maculoanestésica" a esta forma de la dolencia.

2. La placa plana de la forma maculoanestésica se diferencia con alguna dificultad de las placas planas del grupo "indeterminado." Se diferencia fácilmente de las lesiones maculares de la forma lepromatosa y de las zonas residuales planas que quedan después la atenuación de lesiones elevadas de las formas tuberculoidea, lepromato y limítrofe.

3. La forma maculoanestésica de la lepra corresponde a la llamada variedad macular de la forma tuberculoidea de la clasificación del Congreso de Madrid. A fin de minorar la confusión, es necesario tener una clara compressión de este punto.

4. La deferencia en la terminología aplicada a esta forma de la enfermedad en los dos sistemas de classificación está considerada como una diferencia de menor orden. No debe exagerarse innecesariamente y deben hacerse esfuerzos para comprender los distintos puntos de vista. Con mutua comprensión debe ser posible la evolución de una terminología y clasificaciones convenidas por unanimidad, dado que no intervienen diferencias fundamentales.

5. Considérase que, aun con las actuales diferencias, debería ser posible recoger datos para estudios comparados de diversos países acerca de las manifiestas diferencias entre la variedad macular de la forma tuberculoidea y los demás componentes de decha forma. Es indispensable separar las placas planas de las lesiones elevadas de la forma. Así en los países que usan la clasificación india recogerían por separado datos para las lesiones maculoanestésicas y las tuberculoideas y en países donde usan la clasificación de Madrid colectarían separado datos para la variedad macular y para las demás variedades de forma tuberculoidea.

RESUMÉ

1. Cette communication décrit dans le détail la forme de lèpre caractérisée par la présence de macules planes, hypopigmentées, bien délimitées, bactériologiquement négatives, témoignant d'une perte ou d'une déterioration de la sensibilité. Dans la classification indienne, le terme "maculo-anesthésique" s'applique à cette forme de la maladie.

2. La macule plane de la forme maculo-anesthésique est quelque peu difficile à distinguer des macules planes du groupe "indéterminé." Elle est aisément différenciée des lésions maculaires de type lépromateux, ainsi que des cicatrices planes qui persistent aprés la régression des lésions surélevées de type tuberculoïde, lépromateux ou borderline.

3. La forme maculo-anesthésique de la lèpre correspond à la variété dite maculaire du type tuberculoïde dans la classification du Congrès de Madrid. Pour réduire la confusion, il est nécessaire d'avoir ce point clairement présent à l'esprit.

4. La différence dans la terminologie appliquée à cette forme de la lèpre dans les deux systèmes de classification est considérée comme mineure. Elle ne devrait pas être inutilement grossie, et on devrait s'efforcer de comprendre les deux points de vue. Il devrait être possible, dans un esprit de compréhension mutuelle, de mettre au point une terminologie et une classification qui serait admise de façon unanime, car il n'y a pas de différence fondamentale en cause.

5. Nonobstant les différences actuelles, il devrait être possible de rassembler des données susceptibles de se prêter à comparaison dans divers pays. Par suite des dif-

férences manifestes entre la variété maculaire de type tuberculoïde et les autres aspects de ce type, il est essential que les macules planes soient séparées des lésions surélevées dans ce type. Dès lors, dans les pays qui ont recours à la classification indienne, les données devraient être récoltées séparément pour les lésions maculo-anesthésiques et pour les lésions tuberculoïdes, et dans les pays employant la classification de Madrid, les données devraient être récoltés séparément pour la variété tuberculoïde maculaire et pour les autres variétés du type tuberculoïde.

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