CONTRIBUTION TO THE STUDY OF BORDERLINE AND INDETERMINATE LEPROSY [1, 2]

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INTRODUCTION

To classify means to set in order, or to determine the categories into which a whole is divided. The purpose of classification is to make it easier to study and assimilate facts. Hence, in the clinical study of diseases, there is always a sector devoted to classification, the bases of which vary with the disease studied. There can be no doubt that in leprology the problem of classification has acquired the utmost interest with the advent of the lepromin reaction as a means of measuring resistance. The problem of classifying leprosy cases is bound up closely with an evaluation of the state of resistance to infection with *Mycobacterium leprae*.

The elements that have served for this assessment, according to the doctrine supported by the Brazilians, are the following: (1) clinical observation, (2) bacterioscopy, (3) lepromin reaction, and (4) histopathology. These data are strictly interdependent, since, in the final analysis, they illustrate the resistance of the organism to the infection. The experience, by no means insignificant, gathered in centers of leprology all over the world shows accuracy and mutual consistency. Thus a leprologic doctrine has been built on immuno-clinicopathologic foundations, giving rise to the notion of polarity ([12, 13]). Today no one casts doubt on the accuracy of this conception. Opinions differ only within the interpolar range, without interfering with the basic facts.

It is true that inability to culture *M. leprae* has been a stumbling-block in the understanding of many problems of leprotic infection, but it is no less true that keenness of observation and the limited elements of investigation available have enabled the formation of a masterly conception of polarity in this disease. This has been an unparalleled aspect in medicine. The two poles, L and T, represent the antitheses of resistance: the former complete absence, and the latter, presence to a greater or lesser extent. The main objection that has been made to the originally Brazilian system of classification is based on assertions that it is not wholly practical, for, in addition to clinical examination, it demands other laboratory evidence (lepromin test, bacterioscopy, histopathology) not always obtainable in other centers and in field work. I do not hesitate to oppose this point of

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[2] This paper represents an expansion of material submitted to the Round Table on Borderline and Indeterminate Leprosy, of which Professor Azulay was chairman, at the VIIIth International Congress of Leprology, Rio de Janeiro, Brazil, 8–12 September 1963.

view, for, with the experience accumulated, we are in a position by clinical examination alone to tell whether a given case is likely to be lepromin-negative, bacterioscopically positive, and characteristic histopathologically, showing Virchow cells. This is because the clinical semeiotics of the lesions are the result of the struggle between *M. leprae* and the histiocytes.

The possibility that a medical practitioner will be right in his classification of leprosy cases on the basis of dermatoneurologic symptoms is higher than 90 per cent. Between the two poles, which are firmly established, there lies an interpolar zone where opinions differ among leprologists. It may be said in passing that the divergences are on the surface rather than in depth; they are to be found rather in the domain of nomenclature than, strictly speaking, in that of clinical, immunologic and pathologic interpretation. In a general way, the cases are common knowledge; it is merely their designation and position that vary according to the school of thought in leprology. It is this interpolar zone that is to be discussed at the round table of which I have the honor to be chairman. This unstable interpolar belt comprises reactional, tuberculoid, borderline and uncharacteristic leprosy. Within the scope of this round table, we shall only include the last two forms.

BORDERLINE LEPROSY

I. *Concept.*—We have little to add to our work with Alonso [1, 2]. The word "borderline" appeared for the first time in 1940, in a paper by Wade and Rodriguez entitled "Borderline tuberculoid leprosy" [20]. In this work the authors showed mutation from T to L forms. It should be pointed, however, that the phenomenon had already been studied previously by Wade [18], Wade and Lowe [19], and Lowe [9, 10]. About the same time, i.e., in 1940, Cochrane [4] described similar cases under the designation "intermediate."

In 1949 Cochrane [5] proposed the term "dimorphous" for cases with characteristics of both L and T forms. This designation was accepted by the Classification Committee of the Sixth International Congress of Leprology in Madrid as synonymous with "borderline." Cases of this type, apparently once very rare, are becoming more frequent as a result of the increasing perspicacity of the more experienced leprologists. Together with Alonso [1, 2] we had occasion to publish two works on the subject. In the first we analyzed 10 cases; in the second this number was raised to 13, all studied at the Leprology Institute. In the present work I am adding to those 13, 7 more cases observed in the university clinics of the National Faculty of Medicine, University of Brazil, and the Faculty of Medicine of the Federal University of the State of Rio de Janeiro.

We are increasingly convinced that it is the patient's constitution basically that determines the clinical form of leprosy. Heredity, therefore, plays a predominant role in the resistance and consequently

in the definition of the clinical forms of leprosy. Borderline leprosy is no more and no less than a really mixed leprosy, i.e., L plus T, and therefore its existence is foreseeable in accordance with the laws of heredity. It has a mixed clinical and histologic physiognomy; i.e., it possesses the joint semeiotic characteristics of L and T forms at the same time as mixed structures. The percentage in which the elements T and L enter into the construction of borderline leprosy (B) varies very widely. In the theoretic 50–50 mixture we should have the true borderline form. There are cases, however, that approach one or the other pole, taking on clinicoimmunohistologic characteristics that make it often difficult, if not impossible, to distinguish them from that pole. The link between pole T and form B is TR. In cases that are quite characteristically TR or B the diagnosis is easy; there are others, however, where it is difficult or impossible to differentiate between the two forms. We should not attempt to establish water-tight divisions between these forms, for, however carefully this is done, we always meet difficulties inherent in the pathology concerned. An attempt to classify all cases of leprosy precisely and rigorously is unscientific and conflicts with the continuity or range characteristic of all pathologic processes.

II. *Frequency.*—In spite of its description more than twenty years ago, only in the last few years has the attention of leprologists been drawn to this aspect of leprosy. With the object of ventilating the problem among Brazilian leprologists, we organized a symposium on the subject at the Brazilian Leprology Association at the request of the President then in office, Orestes Diniz. Their choice of subject was justified as follows: "There are very few papers published on the subject and they are relatively weak in documentation. It was hoped that this form of leprosy would be amply discussed at the Tokyo Congress, so as to allow a better judgement to be formed of it. This hope was not realized; on the contrary, the silence on the subject was complete. Only one paper was submitted to the Congress on this form of leprosy ("Observations upon borderline type", by A. M. Alonso and R. D. Azulay), and unfortunately it failed to come up for discussion, inasmuch as the authors had sent in other papers.

"Cochrane alone, in his work on classification, refers to the borderline form in a way that astonished the more experienced workers in the field. Informal talks revealed the uncertainty felt by leprologists with regard to the conception of the borderline form."

With these reservations, it is easy to understand why pertinent statistics are few and conflicting. As regards the frequency of borderline leprosy in comparison with the other forms of leprosy, the following data have been placed on record: (a) Convit, Sisiruca and Lapenta (6), 3.2 per cent; (b) Browne (3), 3.2 per cent; (c) Alonso and Azulay (2), 6.4 per cent; (d) Antonio Carlos Pereira (11), 1.3 per cent; (e) Paulo Rath de Souza (15), 0.5 per cent; and (f) Nelson de Souza Campos (16), 1.3 per cent. In the Dermatologic Clinic of the Uni-

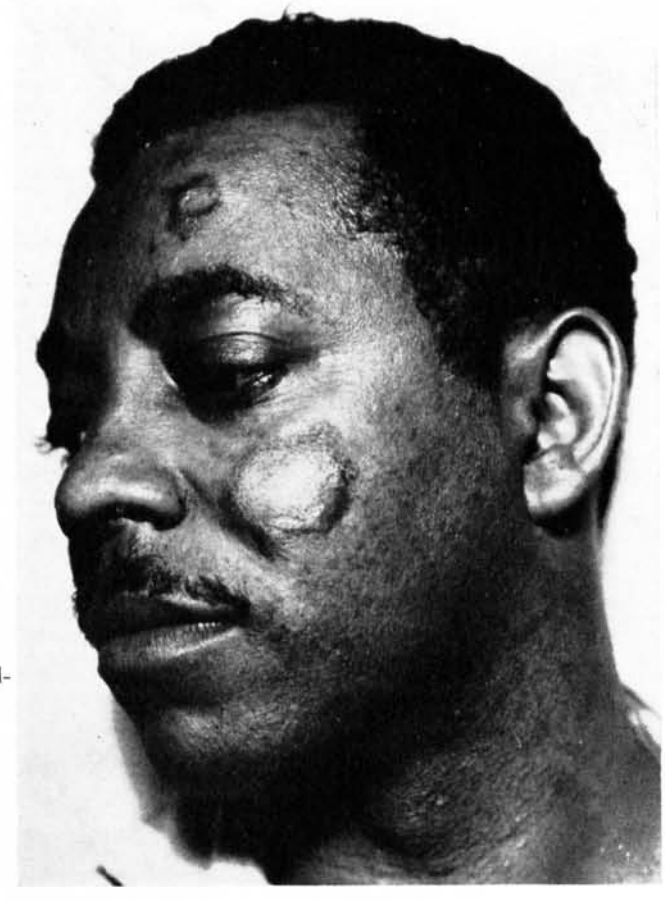


FIG. 1. V.C. 4231: Hollowed lesions.

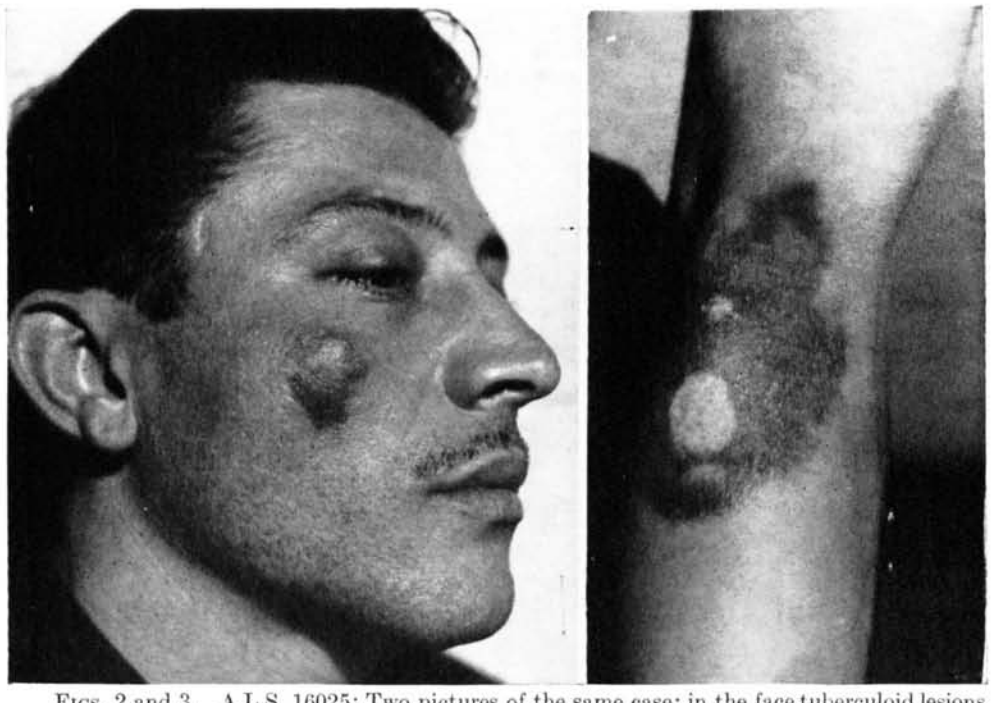
versity of Brazil we find 4.7 per cent. The highest of all these figures is that of Alonso and Azulay (6.4%), which is justified by the interest these authors have taken in the subject.

As knowledge spreads about this form of leprosy, it will be recorded with greater frequency. It would seem to be more common than is generally thought.

III. *Basis for diagnosis.*—The following paragraphs deal with clinical, histopathologic, bacterioscopic, and immunologic aspects concerned in diagnosis.

1. *Clinical aspect:*—From a clinical point of view emphasis may be laid on the following elements:

(a) Hollowed or swiss-cheese lesions: These are erythematous infiltrated lesions that circumscribe one or more circular and depressed areas of healthy or atrophic skin. The inner edge limiting these circular areas is clearly marked, but the outer edge is not so clear-cut and becomes gradually less infiltrated as it slopes upward to the surface of the normal skin. Between the inner and outer edges there is a band of infiltration of varying width. The color ranges from bright red to brown. These lesions vary in number, size, and localiza-



FIGS. 2 and 3. A.L.S. 16025: Two pictures of the same case; in the face tuberculoid lesions and in the arm a "swiss-cheese" lesion.

tion, but in general they are not very numerous and are quite large, even reaching the size of the segment of a limb. They seem to occur, in our experience, most frequently on the limbs and buttocks. As an isolated element of diagnosis, we consider these elements to be of the utmost value.

(b) Erythematous infiltrated lesions, raised and papuloid, with the same objective and evolutive characteristics as those encountered in the TR form.

(c) Edema of the extremities: A pasty diffuse edema is observed fairly often on the backs of the hands and feet, commonly extending to the forearms and legs. In these areas the skin is cyanotic and shiny.

(d) Erythematous patches, sometimes yellowish brown, purplish, pink, or hypochromic, with uncertain edges.

(e) Infiltration of the ear lobes: This is frequently observed, sometimes bilaterally and sometimes unilaterally. As bilateral infiltration is the rule in lepromatosis, unilateral infiltration is important in the diagnosis of B (and also TR) cases.

(f) Number and distribution of the lesions: As a general rule, the lesions are numerous and spread all over the body, but it should be pointed out that they are not so symmetric as in the L form.

(g) Nerve involvement: This is much less than in L cases, not only in intensity but also in frequency.

(h) General symptoms and temperature: In our experience the

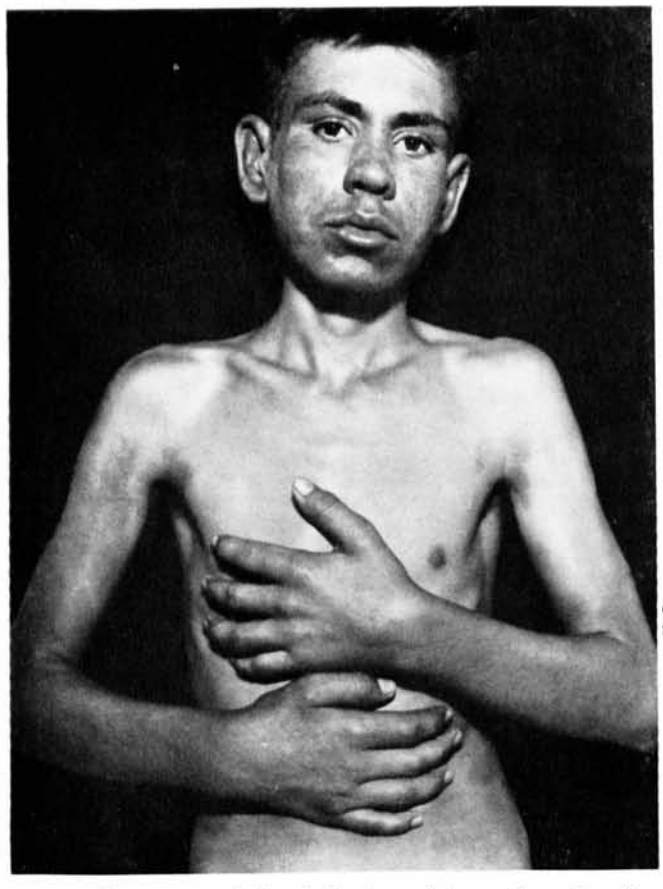


FIG. 4. P.C.P. 20391. Borderline case nearer the lepromatous pole.

general state of health is seldom involved, and a change in body temperature is exceptional.

(i) Negative data: Ocular involvement, gynecomastia, madarosis, orchitis, adenopathy, and visceral disorders are not seen.

2. *Histopathologic aspect*:—From a structural point of view, for the diagnosis to be definitive, it is necessary for the two structures L and T to be found associated either in the same or in different lesions. In either case, the L and T structures are not in themselves absolutely typical and complete, i.e., they fail to display all of their characteristics. They are, so to speak, decapitated, upset structures. As regards the T aspect, giant cells are seldom found, and, if they are present, are not very numerous. In most cases the nodular infiltrate is purely epithelioid. Sometimes it contains a few lymphocytes; at other times there is merely an attempt at the formation of discrete groups of epithelioid cells. The T infiltrate seldom touches the epidermis. In the L type infiltrate it is to be noted that true Virchow cells are generally present (the intracytoplasmic lipid content in our cases was found to be 78 per cent). Histiocytic masses of varying size are often observed. They extend not only into the dermis but also into the hypodermis. Plasmocytes are not always present; when

found, they denote a certain predominance of the L structure. Polymorphonuclear cells, hyperemia, and edema may also be encountered, especially in severe exacerbations. We want to draw attention also to the presence, in very severe attacks, of intracytoplasmic edema tending to form vacuoles in the histiocytes, which thus come to resemble Virchow cells (testing for intracytoplasmic lipid is the best means of making a differential diagnosis). In all of our cases we found acid-alcohol-resistant bacilli and globi in the sections. Their numbers varied from case to case, but as a general rule in this particular they resembled L more closely than TR cases.

The intracytoplasmic lipid present, as noted above, amounted to 78 per cent. In our cases the histologic diagnosis of the B type was made from the first biopsy in 19 of the 25 cases (76%).

3. *Bacterioscopic aspect:*—Sloughing of the skin and nasal mucosa did not always reveal the presence of acid-alcohol-resistant bacilli, in contrast with sections, 100 per cent of which were positive. This, up to a certain point, shows the precarious reliability of routine bacterioscopic technics. Positivity was practically the same in the mucus (73%) and in the skin (75%).

4. *Immunologic aspects:*—The reaction in the Fernández and Mitsuda tests was often negative. Of the two, the Fernández test (early reaction) was more often negative in our cases (86 per cent of the early reactions were negative as compared with 56 per cent of the late reactions).

Above all, in B cases we advise repeated lepromin investigation, for only thus is it possible to detect the fluctuations in positivity that seem to us to occur more frequently (22 per cent of late reactions were fluctuating) than in any other form of leprosy. This fluctuation or "oscillatory phenomenon" is theoretically foreseeable, to our way of thinking, not only chronologically, but also, and above all, topographically. This phenomenon may be explained as follows: the response to inoculation of a specific substance (lepromin) may well be L at one point, T at another and doubtful elsewhere, just as would occur if this inoculation were made from the outside with *M. leprae* or from the inside by the bloodstream, leading, in that case, to structurally different lesions.

IV. *Onset and evolution.*—The onset of our cases has nearly always been slow, though in some cases the development was acute. All of our cases were diagnosed as leprosy already of the B form, and this made it difficult to determine the initial lesions with scientific accuracy. To judge from the information supplied by patients, it would seem that the disease began most often with hypochromic patches (form I), as usually occurs, for that matter, in the other forms of leprosy.

The disease generally runs a chronic course, with acute exacerbations, however, at times. We are of the opinion that B cases, if left untreated, would nearly always evolve into the L type. With

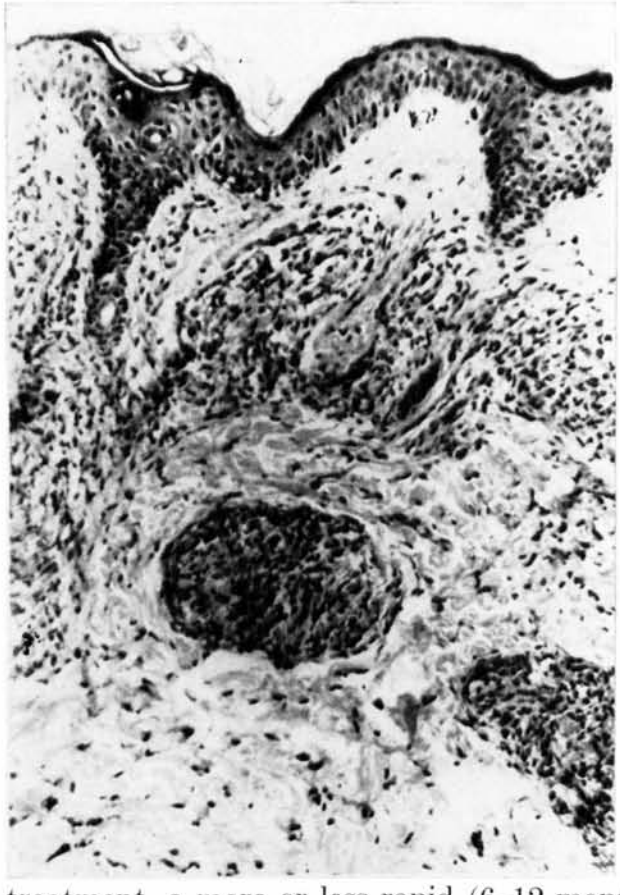


FIG. 5. 5423. Lepromatous infiltration in the upper dermis and tuberculoid nodule below. Magnification × 100.

treatment, a more or less rapid (6–12 months) disappearance of the type T lesions is observed, a fact giving a false impression of overall improvement. In reality the type L lesions (as a general rule, diffuse infiltrations) last much longer, although seeming to clear up sooner than the lesions of lepromatous patients. Attention should be called to the lepromatization of certain cases in spite of treatment; this occurred in 3 of the 18 cases we have studied with Alonso. As a matter of fact, we ought not to use the term lepromatization because it would mean transformation into L. This is not correct; what really takes place is a regression of the T fraction, together with persistence and at times even amplification of the L fraction. From what has been said it will be gathered that the prognosis of B cases is subject to reserve, despite their lesser malignancy than that of L cases.

INDETERMINATE LEPROSY

I. *Concept.*—Our point of view on indeterminate leprosy (I) remains basically the same as that originally developed by the Brazilian school of leprology ([14, 17]), which little by little gathered supporters until it was accepted at the International Congress of Leprology held in Madrid in 1953.

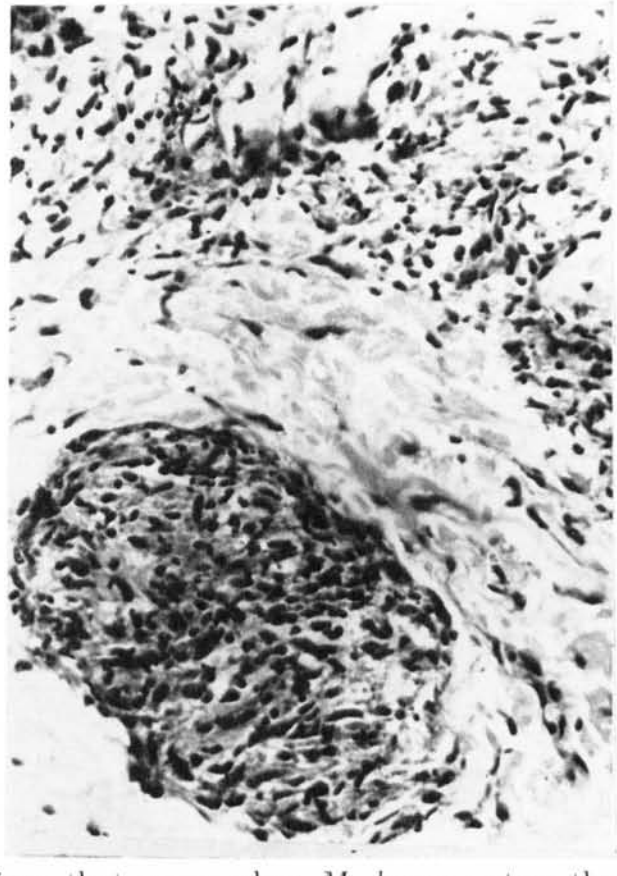


FIG. 6. 5423. High power magnification of area shown in Figure 5 in order to illustrate details. Magnification × 450.

The first tissue reactions that occur when *M. leprae* enters the human organism are unknown; in a general way, however, in most early cases of leprosy (as far as can be ascertained from intensive investigations in which the physician seeks and finds new cases at their outset) tissue resistance is at a minimum and represented by discrete inflammatory foci of lymphocytes and histiocytes. It is highly probable that all cases pass through this indeterminate phase, which lasts for some time (years, even) before taking a definite turn, eventually, according to the resistance of the individual, toward a granuloma of T or L form or mixed T and L (B) type. We have the impression that this indeterminate stage may or may not have clinical expression. There would seem to be cases that pass without clinical manifestation from the intermediary subclinical stage to a clinical stage with L, T or B characteristics. In others, however, the indeterminate stage is evident in clinical manifestations peculiar thereto, and the inflammation is subsequently transformed from I into L, T or B, with corresponding clinical alterations. Nothing can be said about the subclinical indeterminate stage, since the elements of investigation available are insufficient to permit establishing a diagnosis. It is a purely theoretic conception. It is, therefore, the clinical stage of indeterminate leprosy that we shall discuss. An

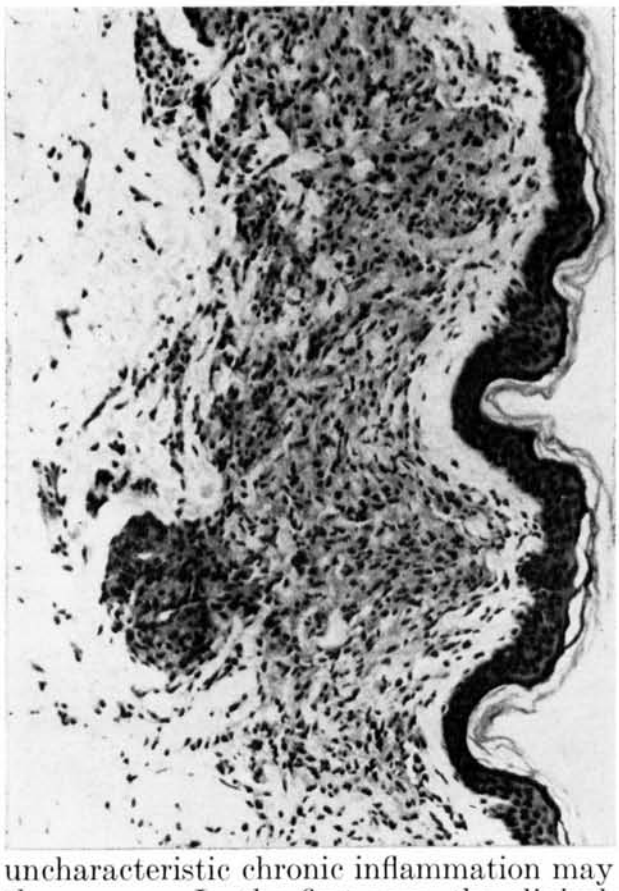


FIG. 7. 7004. Lepromatous infiltration. Magnification ×450.

uncharacteristic chronic inflammation may involve either the skin or the nerves. In the first case, the clinical manifestations are represented by patches, i.e., lesions with a change of skin color but no evidence of infiltration. These patches may be hypochromic, erythematous, or both hypochromic and erythematous. They vary within a wide range as regards number, size, and location. The lesions are sometimes clearly outlined, while in other cases the edges are blurred and merge almost imperceptibly with the normal skin coloring. As a general rule they show alteration in sensibility and reaction to the histamine and pilocarpine tests. When they are very recent, the results of sensitivity and other tests are normal.

The attack on the nerves is made separately or concomitantly with the skin lesions. In any case no more than one or a few nerves are involved; measurement of the nerve loops (ansimetry) should be a routine procedure. The thickening, perceptible on palpation, is discrete, and there is no nodulation.

From a bacterioscopic point of view, the cases of indeterminate leprosy are generally found to be negative; when they are positive, only isolated alcohol-acid-resistant rods are encountered. The presence of globi, on the other hand, is a clear indication of lepromatization.

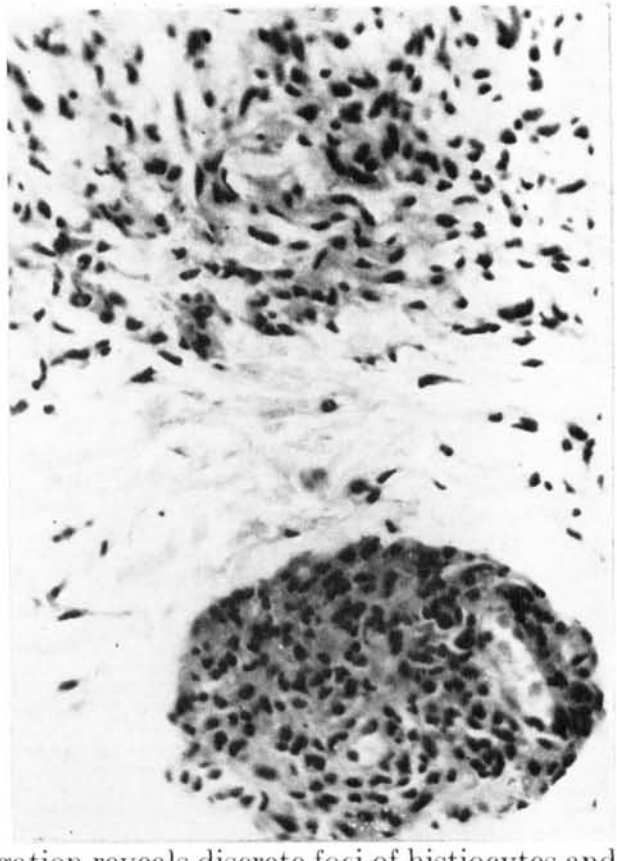


FIG. 8. 7004. Another field from the case illustrated in Figure 6, demonstrating a tuberculoid nodule. Magnification × 450.

Histologically, investigation reveals discrete foci of histiocytes and lymphocytes, which, in the skin, are situated in the superficial dermis around nerves, glands, and vessels. Intracytoplasmic lipid is not found.

The lepromin test may be negative, doubtful, positive, or oscillating.

II. *Frequency.*—This varies with the age of the focus and with the type of census used to discover new cases. In foci of long date or in areas subordinated to a fixed dispensary, the frequency of the I form is low in comparison with that of other forms. Precisely the opposite occurs in recent foci, and also in areas where an intensive census is maintained by energetic flying units.

The following data give some idea of the accuracy of this statement:

(a) Throughout Brazil, in the period between 1946 and 1962, 95,038 leprosy patients were card-indexed. Among these the I form accounted for 23 per cent, as compared with 55 per cent for the L form and 22 per cent for the T form.

(b) In Candeias, Minas Gerais, one of the *municípios* (counties) of Brazil, 61 patients were recorded; 26.2 per cent were of the I form, while form L accounted for 67.3 per cent and form T for 6.5 per cent.

In this *município* the National Leprosy Service had an intensive census made by Dr. Wandyck del Favero (7), and 87 new cases of leprosy were discovered, 57.5 per cent of which were for the I form, contrasting with only 19.5 per cent for the L form and 23 per cent for the T form. These numbers are highly expressive and underline the importance of the I form in the early diagnosis of leprosy.

III. *Basis for diagnosis.*—The diagnosis of indeterminate leprosy is essentially clinical: the basis is a patch with hypesthesia or anesthesia. In pure neurologic cases hypesthesia or anesthesia in the acral belt corresponds to the nerve involved. The histamine and pilocarpine tests are a great help in the diagnosis.

IV. *Onset and evolution.*—Indeterminate leprosy begins with hypochromic and/or erythematous patches or else acral paresthesic alterations. The disease runs its course chronically, extending over years. The lesions may gradually increase in number and size and regress, with the characteristics of the indeterminate form, with or without treatment. In other cases, however, it proceeds in the direction of L, T, TR, or B; this evolution may be violent and acute, or slow and chronic. In either cases, some or all of the preexisting lesions become infiltrated; others may appear already with the features of the new clinical form. As might be expected, bacterioscopy and lepromin tests, repeated every six months, are a guide to the direction of the mutation. Repeatedly negative bacterioscopic results in the presence of a progressively positive lepromin reaction, indicate the probability of a T mutation, while progressively positive bacterioscopy, with repeatedly negative lepromin reaction, is a sign of mutation toward the L form. Naturally this is not a hard and fast rule, since there are obviously cases that evolve differently.

V. *Position of indeterminate leprosy with respect to the concepts of other authors.*—Points at issue that conflict with the independence of this form are the maculo-anesthetic and neuritic forms of the Indian writers and the macular dimorphous form of Khanolkar and Cochrane (8). To our way of thinking, the maculo-anesthetic form is absorbed partly by I and partly by T. From the purely clinical point of view, in field work or regions of limited possibilities, all the maculo-anesthetic cases would be recorded as I. The cases thus recorded, when and if subjected to biopsy, would remain as I or be altered to T according to the histopathologic results. A greater difficulty lies in the neuritic form. As a suggested standard procedure, the following may be indicated. Cases in which a small number of nerves are involved, without nodules, without or with discrete thickening, and bacterioscopically negative, are likely to be I. Identical cases, however, with nodulation, with or without caseation, would be recorded as T. Cases with multiple, symmetric nerve involvement and generally bacterioscopically positive, would be classified as L. As a matter of fact, the purely neuritic form is extremely rare.

SUMMARY

The classification of the clinical forms of leprosy should be linked closely to the degree of resistance, and hence to heredity. To be rational, any and all classification must be based on the concept of polarity. The interpolar zone, because of the instability of resistance within its range, admits of divergence of opinion. This band covers the reactional tuberculoid, borderline, and indeterminate forms.

1. *Borderline leprosy.*—A study has been made of 35 cases from clinical, immunologic, bacterioscopic and histopathologic angles. The frequency of borderline leprosy varies with the interest in, and extent of, the resources available for diagnosis. It is probably far more frequent than is commonly suspected. The highest frequency among the several forms of leprosy in the statistics presented up to date is 6.4 per cent.

Considering the matter from a clinical viewpoint, the author draws attention to the following: hollowed or swiss-cheese type lesions; infiltrated lesions peculiar to the TR form; edema of the extremities, hypochromic and erythematous patches with uncertain edges; infiltration of the ear lobes on one or both sides; the great number of lesions, less symmetric than in the L form; a lesser nerve involvement than in the L form; frequent absence of general symptoms and fever; finally, negative data, e.g., absence of ocular involvement, gynecomastia, madarosis, orchitis, adenopathy and visceral disorders. Histologically, the author stresses the concomitance of the two structures, L and T, either in a single lesion or in different lesions, required to make a reliable diagnosis of the B form and also insists on the fact that the T and L structures are by no means typical, but, on the contrary, decapitated and upset. Out of 25 cases, the diagnosis of the B form was made from the first biopsy in 19 cases.

Detection of bacilli was 100 per cent positive in sections, as compared with sloughing (positivity: 75 per cent in the skin and 73 per cent in the nasal mucus). Negativity was 86 per cent in the early and 59 per cent in the late lepromin reaction. The author draws attention to the frequency of the fluctuating or oscillatory phenomenon in the lepromin reaction; 22 per cent of late reactions fluctuated. The onset was slow in most of the author's borderline cases, in contrast with the findings of certain other authors. Furthermore it seemed to the author that the cases started with the I form. The evolution of the case generally followed a chronic course, but sometimes, more rarely, it was acute. Specific treatment brings about rapid improvement in the patients as a result of the disappearance of the T fraction (not really lepromatization), which, in fact, may regress somewhat more rapidly than lepromatous cases.

2. *Indeterminate leprosy.*—The author confirms the initial views of Brazilian leprologists with regard to this form of leprosy. Indeterminate leprosy cases are identifiable by hypochromic patches, often with loss of sensitivity and a change in the histamine and

pilocarpine reactions. Bacterioscopy is frequently negative, and when it is positive few bacilli are to be found. The lepromin reaction may be positive, negative, or oscillating.

RESUMEN

La clasificación de las formas clínicas de la lepra debe ser íntimamente relacionada al grado de resistencia, y por la tanto, a la herencia. Para ser racional, cada una y todas las clasificaciones deben estar basadas en el concepto de polaridad. La zona interpolar, debido a la instabilidad de la resistencia dentro de sus fluctuaciones, admite una divergencia de opinión. Esta banda cubre las reacciones tuberculoides y límites (borderline) y las formas indeterminadas.

1. *Lepra límite* (borderline). Se ha realizado un estudio de 35 casos, desde los ángulos clínicos, inmunológicos, bacterioscópicos e histopatológicos. La frecuencia de la lepra límite (borderline) varía con el interés y la extensión de los recursos disponibles para el diagnóstico. Es probablemente mucho mas frecuente de lo que comunmente se sospecha. La mayor frecuencia entre las diversas formas de lepra, en las estadísticas al dia, es del 6.4%.

Considerando este tema desde un punto de vista clínico, el autor llama la atención sobre lo siguiente : lesiones excavadas o tipo queso suizo ; lesiones infiltrativas peculiares a la forma TR ; edema de las extremidades, áreas hipocrómicas y eritematosas con límites inciertos ; infiltración de los lóbulos de la oreja en uno o en ambos lados ; el gran número de lesiones, menos simétricas que en la forma L ; un menor envolvimiento nervioso que en la forma L ; frecuente ausencia de síntomas generales y fiebre ; finalmente datos negativos, e.g., ausencia de envolvimiento ocular, ginecomastia, madarosis, orquitis, adenopatías y desórdenes viscerales. Histológicamente, el autor acentúa la concomitancia de las dos estructuras, L y T, sea en una sola lesión o en diferentes lesiones, requeridas para hacer un diagnóstico responsable de la forma B, y tambien insiste en el hecho de que las estructuras T y L de ninguna manera son típicas, sino por el contrario, son decapitadas y desordenadas. De los 25 casos, en 19 casos el diagnostico de la forma B fué hecho con la primer biopsia.

La detección del bacilo fué 100 por ciento positiva en las secciones, en comparación con la escarificación (positividad: 75% en la piel y 73% en las mucosidades nasales). La negatividad en las reacciones de lepromina fué de 86% en los casos tempranos y 59% en las tardías. El autor llama la atención sobre la frecuencia de los fenómenos fluctuantes u oscilantes en la reacción de la lepromina. En la mayoría de los casos límites (borderline) del autor el ataque fué lento en contraste con los hallazgos de ciertos otros autores. Mas aún, al autor le parece que los basos comenzaron con la forma I. Generalmente la evolución de los casos siguió un curso crónico, pero algunas veces, mas raramente, fué agudo. El tratamiento específico trae una rápida mejoría en los pacientes, como resultado de la desaparición de la fracción T (realmente no lepromatización), el cual, en realidad, puede involucionar tal vez mas rápidamente que los casos lepromatosos.

2. *Lepra indeterminada.* El autor confirma los puntos iniciales de los leprólogos brasileros con respecto a esta forma de lepra. Los casos de lepra indeterminada pueden ser identificables por las áreas hipocrómicas, frecuentemente con pérdida de la sensibilidad y un cambio en las reacciones de la histamina y pilocarpina. Bacterioscopia frecuentemente negativa, y cuando es positiva, se pueden encontrar algunos pocos bacilos. La reacción de la lepromina puede ser positiva, negativa u oscilante.

Ver Internat. J. Leprosy 34(3): 320-321, 1966

RESUME

La classification des formes cliniques de lèpre devrait être associée étroitement au degré de résistance, et donc à l'hérédité. Pour rester logique, n'importe laquelle des classifications, et chacune d'elle, devrait être basée sur le concept de polarité. La zone située entre les deux pôles, par suite du manque de stabilité qui y est noté dans la résistance, admet des divergences d'opinion. Cette zone englobe les formes tuberculoïde réactionnelle, dimorphe (borderline) et indéterminée.

1. *Lépre dimorphe (borderline)* Trente-cinq cas ont été étudié des points de vue clinique, immunologique, bactérioscopique et histopathologique. La fréquence de la lèpre dimorphe dépend de l'interêt que l' on porte à son diagnostic, et de l'étendue des ressources que l'on peut consacrer à celui-ci. Il est probable qu'elle est beaucoup plus fréquente qu'on ne l'imagine géneralement. La proportion la plus élevée rapportée jusqu'à présent pour cette forme parmi les autres formes de lèpre est de 6.4 per cent.

Considérant la question d'un point de vue clinique, l'auteur attire l'attention sur les caractéristiques suivantes: lésions ponctuées de vides du type "fromage de Gruyère"; lésions infiltrées particulières aux formes tuberculoides réactionnelles; oedème des extrémités; macules hypochromiques et érythémateuses avec bords mal définis; infiltration des lobules de l'oreille d'un ou des deux côtés; lésions très nombreuses, et moins symétriques que dans la forme lépromateuse; absence fréquente de symptômes généraux et de fièvre, enfin, absence de certaines manifestations telles qu'atteinte oculaire, gynécomastie, madarosis, orchite, adénopathie et atteinte viscérale. D'un point de vue histologique, l'auteur insiste sur le fait que la prèsence simultanée des deux types de structure, lépromateuse(L) et tuberculoïde(T), soit dans la même lésion, soit dans des lésions distinctes, est requise pour poser un diagnostic valable de la forme dimorphe(B); il insiste également sur le fait que les structures lépromateuse (L) et tuberculoïde (T) ne sont en aucune manière typique, mais, bien au contraire, incomplètes et bouleversées. Le diagnostic de lèpre dimorphe (B) a été posè au vu de la première biopsie dans 19 cas sur 25.

La découverts de bacilles a été 100 per cent positive dans les coupes, alors que de tels résultats n'ont pas étè obtenus dans les frottis (positivité: 75 per cent dans la peau et 73 per cent dans le mucus nasal). Quatre-vingt six pour cent des réactions précoces à la lépromine, et 59 pour cent des réactions tardives, étaient négatives. L'auteur attire l'attention sur la fréquence des phénomènes de fluctuation, ou d'oscillation, dans la réaction à la lépromine; 22 pour cent des réactions tardives témoignaient de fluctuations. Dans la plupart des cas de lèpre dimorphe (borderline) étudiés par l'auteur, le développement des manifestations était lent, ce qui est en opposition avec les observations rapportées par d'autres. De plus, l'auteur relate qu'il lui a semblé que ces cas commencaient par la forme indéterminée (I). L'évolution du cas présentait généralement une allure chronique, mais parfois, quoique plus rarement, l'évolution était aigue. Le traitement spécifique entraîne une amélioration rapide des malades par suite de la disparition de la composante tuberculoïde (ce qui ne correspond pas à une lépromatisation réelle) qui, en fait, peut rétrocéder un peu plus rapidement que les cas lépromateux.

2. *Lèpre indéterminée.* L'auteur confirme l'opinion initiale des léprologistes brésiliens quant à cette forme de lèpre. Les cas de lèpre indeterminée peuvent être identifiés grâce aux macules hypochromiques, souvent accompagnées de perte de la sensibilitè et d'une modification dans les réactions à l'histamine et à la pilocarpine. La bactérioscopie est souvent négative, et lorsqu'elle est positive il n'est possible de trouver que peu de bacilles. La réaction à la lèpromine peut être positive, négative, ou osciller de l'un à l'autre.

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