POSITIONING OF BORDERLINE AND INDETERMINED GROUPS IN THE HANSENIASIS CLASSIFICATION

Antonio Carlos PEREIRA JUNIOR *
Andréa Cabral de Menezes GURFINKEL**

ABSTRACT — The authors discuss the present conceptions of the hanseniasis classification, establish the main clinical, histological, bacterioscopic and immunological characteristics of the borderline and indeterminate groups. They also believe that the borderline group is genetically pre-determined and show the importance of the indeterminate forms and its evolutionary aspects. They try a schematic process of classification from the Rabello's polar conception and conclude stating that the closing of the borderline groups within itself, with special characteristics, oscillating in a defined spectrum without touching the extremes T and V (L).

Key words: Hanseniasis classification. Borderline hanseniasis. Indetermined hanseniasis.

Our purpose in this paper, is to present a subject that has been preoccupying not only ourselves but mainly hansenologists, who have been following with interest the updating and progress of science.

In fact, there has been very little ken obtained in the therapeutic of the disease. On the other hand, clinical and scientific research have been advancing, being on the latter the hope for the development of more efficient drugs in the treatment of hanseniasis. We can not ignore the work that is being done at the international and national levels, with special mantion to the pioneering group of Bauru, in the fields of prophylaxis and recuperation of the incapacitated.

We believe that the adoption of the new nomenclature, with the substitution of the deplorable word "leprosy" by "hanseniasis" has helped a great deal controlling the disease. Unfortunately, in the past few years we have been observing a progressive unawareness in all levels towards prophylaxis and also with scientific research, in which the most striking example is the closing of the "Instituto de Leprologia" in Rio de Janeiro.

At this moment we are searching, with special interest, for the newest and polemic subject, not at a national level, but international, which is — Hanseniasis Classification.

Classifying such a disease is not an easy task because of its many clinical and histological aspects, and nowadays, repleted with immunological components, which was considered by Waldenstrom [19] in 1969, as a model for

(*) Associate Professor of Dermatology — F.M. (Faculdade de Medicina) — UFRJ (Universidade Federal do Rio de Janeiro).
(**) Student of the Post Graduate Fellow in Dermatology — F.M. — UFRJ.

the study of self-agression diseases, being the hanseniasis the only disease with auto-immune phenomenons and an etiological agent known.

In 1936, after a great number of confused and imprecised classifications, a new theory arose after Rabello's[10] polar conception.

Based on clinical, histological, bacterioscopic and immunological criteria, Rabello[10] isolated two antagonic fundamental types, based on the just mentioned points and furthermore on epidemiology and prognostic. He developed the Virchowian type concept, then lepromatous. He also characterized the indeterminate form, considered the matrix ; after many sucessive papers, he culminated in his brilliant thesis — the other polar type — the tuberculoid[11]

At the same time in which Rabello was working on his polarity theory, another Brazilian hansenologist, Rotberg,[14] was pointing out the idea of Natural Resistance to the hansenic infection.

The idea grew and it was adhered by many Brazilian notable works including those of Souza Campos, Souza Lima, Aguiar Pupo, Rotberg, Bechelli, Azulay, Alonso and many others. Outside Brazil some very well-known hansenologists as Fernandez in Argentina and Latapi in Mexico adopted this same doctrine. Didatic, scientifically precise, the theory was adopted in Havana, in 1948, to be ratified in 1953, in the International Congress of Madrid.

It was then recognized two types and two groups. The polar types T and L and the unstable groups B and I.

At first to the borderline, dimorphous or bipolar forms was not given much attention by the hansenologists and so it was ignored in the Cairo Congress (1958). After that is has been very well studied in our country since the Rio de Janeiro Simposium in 1960 on borderline hanseniasis and has had its meaning very well expressed by Miguez Alonso [7] in 1966.

But, ironically, this group would be responsible for the misunderstanding of some authors, mainly the English speaking ones, who, trying the classification based on histological and immunological data, ignoring many times the clinical knowledge, came up with wrong concepts with the hiperdimensioning of the borderline group, mistaking is sometimes with the indetermined, minimizing the polar forms and committing a fundamental sin which is of practically ignoring the indeterminate form. For us, this is the most important, regarding clinic and prophilaxis, being also, the most frequent after mentioned in the memorable works of Favero [2,] in 1948, in the intensive census of Candeias. MG, showing to exist a 57% of cases and works of Aguiar Pupo, in its private clinic with figures above 80% and most recently Elio Nunes in the State of Acre.

For this reason and for considering the clinic fundamental for the knowledge of those groups, we will try to recollect important data which will permit us the clinical diagnosis of the borderline and indeterminate groups, according to histological, bacilloscopic and immunological parameters, so that, at the end, we will be able to show our present idea, based on the propositions of existing classifications.

CLINICAL CHARACTERISTICS OF BORDERLINE AND INDETERMINATE GROUPS

A) Borderline — We start with the Portugal[9] quote:
"According with the general consensus, the histological view of

bipolar hanseniasis is configurated with the co-existence, in the same patient, of tissue lesions, peculiar to both polar types. The structural bipolarity can manifest itself in two ways:

1 By the concomitance of both structures in the same cutaneous area or in distant points.

2 Along the evolution course of the disease, intercalating themselves between one and the other a certain time period. The two concurring structures obviously are lepromatous and tuberculoid granuloma."

During all the time we have been working in hanseniasis, we have been always searching for signs and symptoms on the clinical point of view which would permit us to predict a borderline form before other confirmations, being them of immunological or histological nature. For us the recognition of those cases can not, in its majority, be done instantaneously, but must be done by following the patient's evolution through a long observation of the same, first by a thorough anamnesis followed by a careful basic classification of characters.

Clinical elements for this configuration were found in the works of Mattos[4]Miguez Alonso [5] and Wade [17]. Based on those and on our personal experience, we gave importance to the following information concerning the clinical diagnosis of borderline hanseniasis :

1 Round papules lesions of tuberoid aspect.

2 Swiss cheese - like lesions (flat, difused, erythematous with a clear center and a well-determined internal border — or infiltrated, with the same aspect).

3 Erythematous lesions of ferruginous or sepia tonality, difused. In 1960 Wade[17] had already called the attention to this tonality.

4 Reaction pattern polymorphic — erythema type. In the former Instituto de Leprologia, Matos[4] pointed out that the borderline patients had EP and EN type reactions, but that the HV patients, did not have EP type reaction. Therefore, this reaction type is another factor indicating borderline.

5 Assimetry in the auricular chamber infiltration, beside others Virchowians lesions, fact already referred by Wade[17].

6 Lateral or anterior lesions of the neck.

7 Semimucous invasion by periorificial lesions of the face.

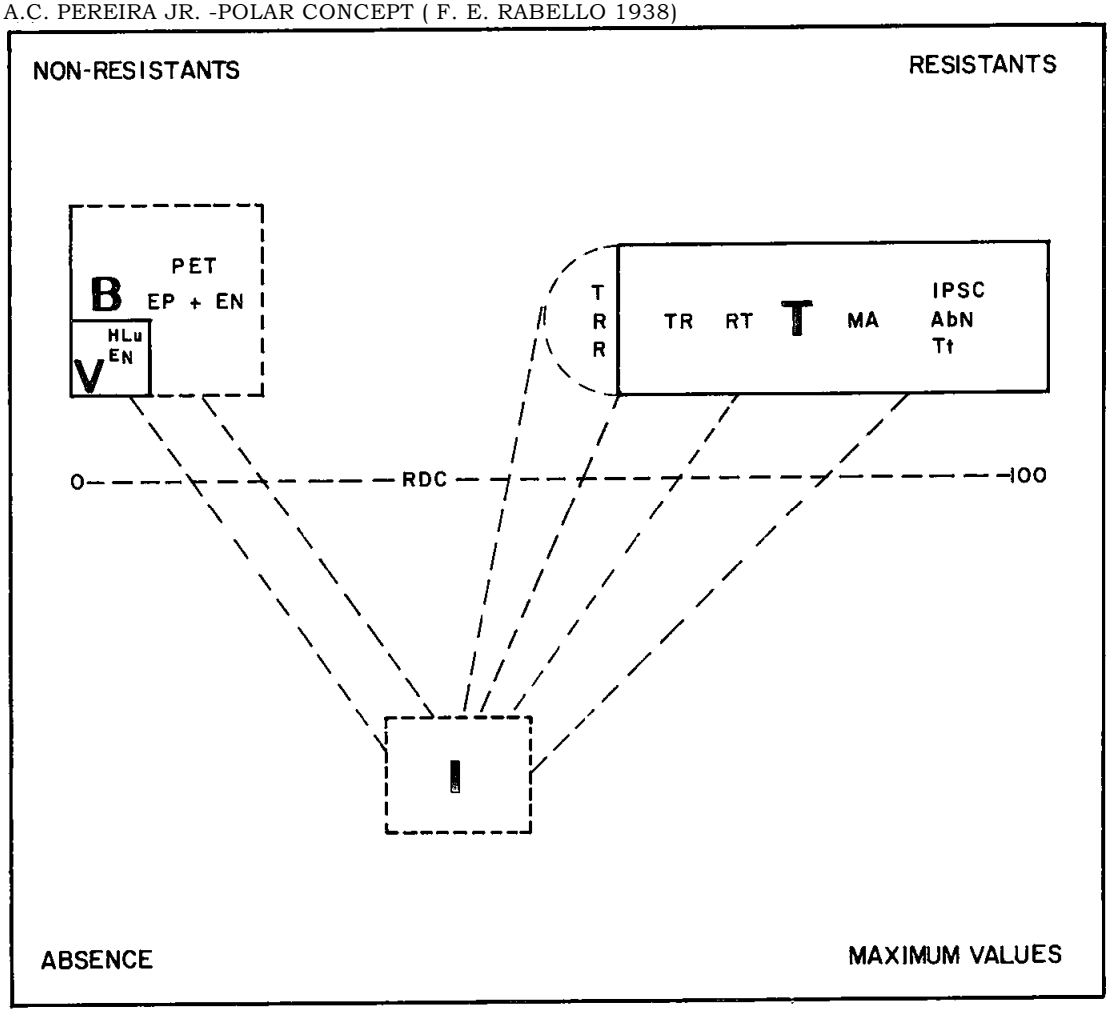
8 Discrete nervous involvement and absence of advanced evolutionary stages of the disease.

B) Indeterminate — Hypocromic, achromic or erythematous spots located in any segment of the cutaneous tegument, with thermal and painful anesthesia, not always tactile and of long evolution. It is very important the observation of the lesion border, that if well delimitated would be in favour of a good prognostic and a probable positive Mitsuda, and if difuse, pressuposes a virtual transformation to the malignant side.

In the clinical characteristics for the dimorphos lesions we have found well-diversified hues, which, as a whole, composes a group, that by its own mixed nature, bipolar, presents vari-

TRIAL AT SCHEMATIC PROCESSES FOR CLASSIFICATION OF HANSENIASIS

A.C. PEREIRA JR. -POLAR CONCEPT (F. E. RABELLO 1938)



— right line = stable
----- Interrupted line = unstable
V = Virchowian
HLu= Lucio's Hanseniasis
EN = Erythema Nodosum reaction

N = Natural factor of resistance
B = Borderline
PET= Tuberculoid Pseudo Exacerbation (Souza Lima)

RDC=Constitutional, Defensive, Reactivity (Azulay -1953)
TRR = Reactional Tuberculoid Recidivant
T = Tuberculoid
MA = Maculo Anaesthesia
TR = Reactional Tuberculoid
IPSC= Young infiltrate
AbN = Nervous Abcess
Tt = Torpid tuberculoid

ations, but defined within a certain space, exceptionally touching the extremes.

It is evident that the clinical lesions have their histological expression, presenting also their own variations. In this way, authors like Miguez Alonso[5], Saul[15] and even Wade [17] have used for a long time expression like tuberculoid dimorphous and lepromatous borderline.

In our personal experience we have succeeded in finding pathological dimorphos histology. In only one slide when we were making a biopsy in lesions (Swiss cheese-like), in the limit of the internal border of the spot or infiltration.

For the histopathological diagnosis of indetermined hanseniasis, a special attention should be given to the peryneural lymph-histiocytic infiltrate and to the absence of lipids in staining by Sudan III, already mentioned by Azulay [1] and Neves[7].

COMMENTS ON PRESENT DAY CLASSIFICATIONS

In 1966 Ridley and Jopling [13] appeared with the basis for a new classification which did not destroy the classic polarity notion, but established in the beginning controversies and confusions, due to the following reasons, among others:

a) too much value to the borderline form, as we all know, does not represent more than 10% of the cases.
b) inclusion of the reactional tuberculoid group, in the borderline group.
c) the indeterminate form being almost unknown.

We have considered necessary the discussion of the clinical, histopathological, immunological and bacterioscopic manifestation in the characterization of the hanseniasis type being absolutely well-defined the Virchowian and tuberculoid types, both stable forms. We have found not to be practical Ridley's[12] idea of enlarging his 5 "marked points" with nothing less than 23 items to define, what he called "key for classification".

Neves [7] in recent papers has shown with clearness the differences existing in the histological point of view between HTR and HB. For that, the Sudan III staining for lipids is imperative and it was neglected by those authors. In HTR the search for lipids is negative, however due to the edema which changes the granuloma structure, a yellow tonality, clear and difuse appears, occured by a parcial solubility of the stain in the edema liquid. This liquid has a fraction of normal lipids. Therefore a pathologist not familiar with this picture might consider it positive (then it is false positive).

In dimorphous hanseniasis the abnormal lipid was found in 75.9% of the cases.

We can not see any viability in classifying the phase or clinic form of a disease by just a skin section or even by an eventual immunological finding. If many biopsies are done in a borderline patient with multiple lesions, we will find lesions of varied aspects within Ridley's [12] nomenclature. What exists is a set of manifestations that characterize an unstable group within itself, unstable from a determined point to another, unstable from a month to another but always oscilating within restricted limits in its positioning in the hanseniasis polarity, never on a pendular movement, as Turk [16] wished, between one and the other enfermity pole.

We believe that the borderline form is genetically determined and we also accept Castro's hypotesis, mentioned by Miguez Alonso[5] that there are TT homozigote, TV heterozigote and VV homozigote individuals. The stability of polar types is among many other factors determined by the inalterability of clinical forms in our records (this fact has already been mentioned by Alonso) , and when this happens, many times, there had been a mistake in the beginning which is detected by revision on the patient's records, as the case of a patient that labeled as V, in a treatment in the "Instituto de Leprologia" for more than ten years, once presented a Mitsuda positive. The revision showed us this initial picture, of 1959, typical of HB.

We got then the clear impression of the closing of the hanseniasis borderline within itself, seen as a form coming from heterozigotic inheritance, as already mentioned. More recently this conception was given support by findings of Greiner *et al.* [3], which studied in the immunogenetic field a possible association with the genes of the HLA system, not finding relevant differences amongst BB, BL and BT forms, while the two polar types called LL and TT showed a close association with the HLA-A_2, low on the polar type T, and HLA-B_{17} increased in the polar type (V).

Azulay[1] speaks of the possibility of the existence of pathogeny in the borderline clone forms different from macrophages with the power to lyse or not the bacillus. We believe in the hypothesis, but place a duality of distinct clones not in the macrophages but in the lymphocyte which had already been interfering on those since the initial agression to t he histiocyte by the bacillus, with the formation of macrophages with different lysis potential.

CONCLUSION

To conclude, we would like to reinforce the idea that is already genetically constituted, changes and varies within its own aspect. Because of that we offer, with emphasis, several clinical modulations for the supposition of a borderline form, which diagnosis .is not always easy or done at the moment. But its existence does not constitute any threat to the polarity notion where such different structures characterize themselves in an irrevocable manner. But, for us, the hybrid borderline or dimorphous form, more borderline than dimorphous, for being closer to the Virchowian is a genetic mixture and as such, more complicated, but with clinical, histological, immunological and bacterioscopic characteristics permitting their groupment as one sole one, in constant agitation, but closed inside itself.

We find impossible the confusion between the groups B and I, just for its instability. The first one is histologically granulomatous and the second one is pregranulomatous, besides other clinical, bacterioscopic an even histological factors.

In the recognition of the indetermined forms, lies the modern prophylaxis of hanseniasis through an early diagnosis and fast treatment, before its evolution towards a contagious and malignant form with the worst response to the specific therapy. This one can not or must not be ignored not only by the well-known specialists but also by the General Practitioner M.D., health personnel teams and even by the community leaders, aiming towards the hanseniasis control.

RESUMO — Os autores discutem diferentes concepções sobre a classificação da hanseníase, com especial enfoque para as formas borderline e indeterminada. Assinalam as principais características bacterioscópicas, histopatológicas, imunológicas e em especial as clínicas. Acreditam ser o grupo borderline geneticamente pré-determinado e mostram a importância da forma indeterminada, bem como seus aspectos evolutivos. Propõem um processo esquemático de classificação, dentro da concepção polar de Rabello e defendem a oscilação do grupo borderline dentro de um espectro bem definido, sem jamais tocar em T e V.

Palavras chave: Classificação da hanseníase. Hanseníase borderline. Hanseníase indeterminada.

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