

## REACTIONAL STATES IN MULTIBACILLARY HANSEN DISEASE PATIENTS DURING MULTIDRUG THERAPY

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### SUMMARY

It is well known that reactions are commonplace occurrences during the course of leprosy disease. Stigmatization may even be attributable to reactions which are also responsible for the worsening of neural lesions. A cohort of 162 newly-diagnosed baciloscopically positive patients from the Leprosy Care Outpatient Clinic of the Oswaldo Cruz Foundation (FIOCRUZ) was selected for this study. While 46% of the multibacillary (MB) patients submitted to the 24 fixed-dose multidrug therapy (MDT) regimen suffered reactions during treatment, it was found that all MBs were susceptible and that constant attention and care were required at all times. Fourteen per cent were classified as BB, 52% as BL, and 33% as LL. None of the variables under study, such as, sex, age, clinical form, length of illness, length of dermatological lesions, bacilloscopic index (BI), or degree of disability proved to be associate with reaction among the patients studied. Reversal Reaction (RR) occurred in 45%, and Erythema Nodosum Leprosum (ENL) occurred in 55%. Among BB patients who developed reactions (15 patients), 93% presented RR; while among the LL patients who developed reactions (34 patients), 91% presented ENL. Likewise, ENL was very frequent among those with disseminate lesions, while RR was most often observed in patients with segmentary lesions. RR was also most likely to occur during the initial months of treatment. It was demonstrated that the recurrence rate of ENL was significantly higher than that of RR. Neither grade of disability nor BI was shown to be associated with RR and ENL reaction. However, the RR rate was significantly higher among patients showing BI < 3, while ENL predominated among those patients with BI > 3.

**KEYWORDS:** Leprosy; Leprosy reactions; Reversal reaction; ENL; MDT.

### INTRODUCTION

It is a well known fact that in the course of treatment for leprosy disease, reactions are commonplace and that these reactional states greatly contribute to the stigma associated with the disease, which may, in turn, be a key factor in discouraging leprosy carriers from seeking treatment in the first place.

While some current leprosy control programs have recently focused more attention on reactional states in an effort to more clearly distinguish them from relapses, which often occur subsequent to the completion of MDT<sup>21</sup>, it is disturbing to note that, to date, very few comprehensive clinical or epidemiological studies on reactions have been carried out in the endemic countries<sup>1,3,22</sup>.

In our view, the most serious contributing factor to the lack of reliable data on this subject is the absence of a universally-

accepted standardization nomenclature and set of norms integrating the various schools of leprosy research into a coherent body of knowledge which would be easily accessible as a reference source for application in the field<sup>17,19</sup>. For the most part, our experience has shown that both the patient and the attendant view reactivation of the lesions as a naturally-occurring aggravation of the disease, and that no record is made of the fact unless dramatic acute neuritis sets in.

This study attempted to define some clinical and epidemiological characteristics of patients at risk of reaction. The primary objective of this study was to detect a possible link among reactions, the clinical and bacteriological patterns of the patient upon admission, and length of the disease. Relevant data were collected on a cohort of 162 MB (multibacillary) leprosy patients throughout a 2-year-MDT treatment program. The occurrence of reactional episodes was closely monitored and correlated with the clinical and epidemiological indicators.

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## PATIENTS AND METHODS

The Leprosy Care Outpatient Clinic, located on the Rio de Janeiro campus of the Oswaldo Cruz Foundation (FIOCRUZ), is a health research unit operating under the auspices of the Leprosy Laboratory and supported by funds from the Ministry of Health and is one of the national reference centers within the Ministry's Leprosy Control Program. Most of the patients in the Outpatient Clinic are referrals from the public health care network, while a few are self-referrals.

For the purpose of this study, newly-diagnosed leprosy patients admitted to our clinic between September 10, 1986 and June 20, 1991, were joined together to form a cohort. About 10% of these patients were subsequently excluded from the cohort due to a variety of reasons, such as: negative bacilloscopic indexes (BIs) in the BB patients, noncompletion of MDT, non-compliance with anti-reactional treatment, and atypical reactional episodes. Seven patients demonstrated neuritis with no other dermatological or clinical symptoms of reactions on the course of MDT. These patients were excluded from the study since it was impossible to classify their reactions as either RR or ENL. A total of 162 patients was included in this study, none of whom had ever been treated for leprosy before.

After clinical, histopathological, bacteriological and lepromin testing, all patients, were submitted to WHO 24-fixed-dose regimen (600 mg Riphampicin and 300 mg clofazimine per month under supervision and daily doses of 100 mg dapsone and 50 mg clofazimine without supervision<sup>25</sup>. The patients were carefully instructed to come to the centre whenever new symptoms appeared (such as, pain in any part of the body, fever, headache, edema, arthralgia, malaise, orchitis, new skins lesions, and the like) even outside of the scheduled visits for the drugs taken under supervision. They were reimbursed for transportation costs whenever necessary. It is, therefore, certain that almost all reactional episodes - even the less severe ones - that occurred during MDT were clinically diagnosed. Biopsies from reactional lesions were taken and clinical diagnosis confirmed by an experienced pathologist.

Bacilloscopic examinations were performed and recorded according to WHO recommendations. Slit smears for BI determination taken from six anatomic sites (usually 2 earlobes, 2 elbows, one lesion, and right knee) were performed at the time of diagnosis. BI was calculated according to Ridley scale<sup>14</sup>. The BI of patients tested at diagnosis ranged from 0.33 to 5.16. For the purpose of this study it was determined that BI 1 would range from 0.33 to 1.00; BI 2 from 1.01 to 2.00; BI 3 from 2.01 to 3.00; BI 4 from 3.01 to 4.00 and BI 5 from 4.01 to 5.00.

The grade of disability was assessed by an experienced physiotherapist according to the criteria recommended by the WHO Expert Committee<sup>23</sup> and subject to very little modification. The grades ranged from 0 to 2. All patients showed negative lepromin tests.

Reversal reaction (RR) was diagnosed if some of the following criteria were met<sup>16,20</sup>: the sudden and abrupt appearance of erythema and the swelling and tenderness of previously existing skin lesions;

the appearance of new erythematous skin lesions; the occasional occurrence of edema on the face, hands or feet; pain and/or functional impairment of nerves; and disseminate cutaneous hyperesthesia.

Erythema nodosum leprosum (ENL) was diagnosed according to the following criteria<sup>16,20</sup>: presence of painful isolated or disseminated dermal erythematous nodules, with or without systemic involvement, as, for example: fever and malaise, swollen nerves and pain, myalgia, lymphadenitis, epididymoorchitis and/or edema. Some patients showed aggravating features characterized by erythema multiform-purplish-iris lesions (EM) and were, therefore, included in the ENL group (n=8).

The patients who suffered reaction were submitted to treatment whenever necessary (1-2 mg/kg weight/ daily of prednisone for RR or ENL or 100 to 300 mg/daily of thalidomide for ENL). All of them demonstrated regression of reactional lesions after the above-mentioned treatment, although some suffered recurrent attacks. The number of reactional episodes per patient was also analysed.

To characterize the clinical pattern of each patient, the following criteria were adopted: 1) Determination of the clinical form of the disease by way of the RIDLEY & JOPLING<sup>18</sup> classification for MB (BB, BL, and LL); 2) Measurement of body surface covered by lesions (whether segmentary or disseminate); and 3) Quantification of the bacillary load based on the RIDLEY & JOPLING scale<sup>14</sup>. It was essential that the duration of the disease upon admission to the study be determined as closely as possible. All patients were first asked how long they thought they had been ill. In the end, grade of disability was evaluated according to previously described criteria.

Sex and age were analysed. All of these data were statistically analysed through the Epi Info 6.04<sup>4</sup> software. The significance of the difference between proportions was tested via a Yates-corrected Chi-squared test. The difference among sample means of bacilloscopic indexes was tested using non-parametric Kruskal-Wallis. A p-value of less than 5% was used as level of statistical significance.

## RESULTS

One hundred and sixty-two (162) patients were closely observed for any reactional symptoms from the moment of the diagnosis until the end of MDT treatment. All of them were bacteriologically positive and lepromin negative. Fifty-seven percent of the 162 patients (93 patients) presented reactions: 31% (51 patients) had ENL, and 26% (42 patients) had RR. Twenty percent (20%) of all ENL cases were classified as mild.

The number of reactional episodes presented by each patient can be seen in Table 1. Among those patients with recurrent episodes 74% that had a total of 3 episodes and 85% that had 4 episodes were ENL. While eight-three percent of the RR patients had 1 or 2 reactional episodes. The data clearly showed that ENL episodes were subject to recurrence, whereas RR episodes were not (p = 0.0107).

**TABLE 1**  
 The number of recurrent reactional episodes in 93 (57%) of the MB patients during 2 years of MDT treatment

REACTION	NUMBER OF EPISODES					N° PAT.
	1	2	3	4	5	
ENL	13	12	14	11	1	51
	25.5%	23.5%	27.5%	21.6%	2.0%	54.8%
	37.1%	48.0%	73.7%	84.6%	100.0%	
RR	22	13	5	2	0	42
	52.4	31.0	11.9	4.8	0.0	45.2
	62.9%	52.0%	26.3%	15.4%	0.0%	
N° PAT.	35	25	19	13	1	93
	37.6	26.9	20.4	14.0	1.1	

N° PAT = number of patients  
 p = 0.01079770

Reactional episodes occurred both prior to and throughout the course of treatment. At the moment of diagnosis, for example, 11% of the 162 patients presented signs or symptoms of reaction. Five percent of them had RR and 6% had ENL. During the course of MDT, 46% of the 162 patients presented reactions at some point. Thirty-six percent of the 162 patients developed reactions during the first year of MDT; 18% developed RR reactions, 60% of which were during the first semester. Eleven patients presented reactions in the third semester, 91% of whom were ENL.

One-hundred and twenty-four patients (76%) were male and 38 (24%), were female. Of the 69 patients who do not developed reactional states, 77% were male and 23% were female. Of the 93 patients who developed reactional states, 76% were male, and 24% were female. The incidence rate of reactions was found to be almost identical for both sexes, i.e., 57% of the males as opposed to 58% of the females, so that no significant difference was detected.

Clinical Status of the patients: The patients were diagnosed according to the RIDLEY & JOPLING<sup>15</sup> classification based on the dermatological exam and histopathological findings. The 162 patients were classified as BB (14%), BL (52%) or LL (33%). Concern the frequency of reaction in each clinical form, 65% of the BB patients, 52% of the BL patients, and 63% of the LL patients suffered reactions. No significant statistical difference was found as regards development of reaction among the three clinical forms of the disease. When BL/LL were grouped together and compared to BB patients there was also no difference (p value = 0.159).

When the type of reaction (RR or ENL) was analysed it was shown that among the 93 patients who had reactions, 91% of LL presented ENL. Among reactional BB patients, 93% developed reversal reaction and only 1 patient (7%) had Erythema Multiform case. Of the 44 reactional BL patients, 57%, had reversal reaction

and 43% had ENL. These findings suggested that BB form could possibly be considered a risk factor for developing RR reactions ( $p < 0.05$ ) and that the LL form could be considered as risk for ENL.

The number and distribution of cutaneous lesions has been carefully recorded at our Outpatient Clinic in the event that Madrid classification, and not the Ridley and Jopling classification, has been officially adopted in our country.

Almost all MB patients showed more than 5 lesions, of which the borderline forms were the smallest in number. On the other hand, some of borderline patients (BB) presented lesions that were segmentary on only one area of the body (head, upper and lower, right or left limbs, front or back of the trunk) in contrast to the BL and LL patients that most frequently presented lesions found on more than one body area (herein referred as disseminate). In comparing the distribution of skin lesions found among those patients that developed reactional states and those that did not, the results showed no significant statistical difference ( $p=0.88$ ). However, within the group of 93 patients that developed reactions and had disseminate lesions, 74% were ENL (26% were RR), while 72% of the patients with segmentary lesions suffered reversal reaction (28% had ENL) (figure 1). RR predominated in those with segmentary lesions and among ENL patients there was a predominance of disseminate lesions, similar to the Ridley and Jopling classification in which RR predominated in BB patients ( $p < 0.05$ ).

All patients were BI positive at the moment of diagnosis. When it was investigated the correlation between the bacillary load and the occurrence of reaction (yes or not) there was no significant statistical difference between higher BIs and risk of reaction. Although it should be pointed out that among patients with BI = 4.66% presented reaction (Table 2).

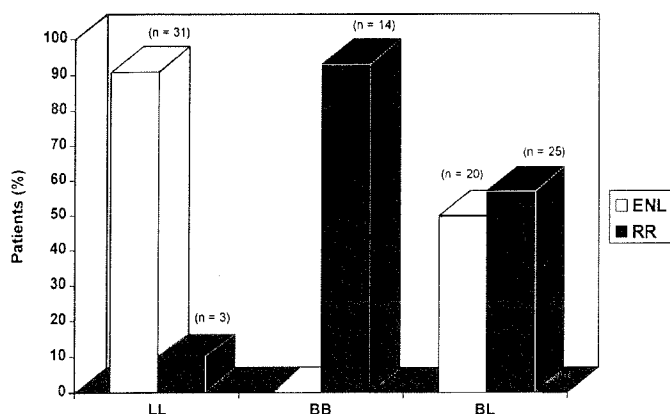


Fig. 1 - Distribution of leprosy reactions according to the clinical forms of disease. It is shown that RR predominates in BB patients. Whereas ENL predominates in LL form.

In comparing the BIs with types of reaction (Table 2), a significant difference was observed ( $p < 0.05$ ). Sixty-seven percent of the reactional patients presented BI above 2, 72% of whom had ENL. Thirty-three percent of the patients presented up to 2 BI, 81% of whom had RR. On the other hand, among those patients with RR, 83% had  $BI \leq 3$ ; and among those with ENL 88% had  $BI \geq 3$ .

When the extension of the lesion and BI were analysed together, it was observed that patients with ENL had disseminate lesions and the highest BIs ( $p < 0.05$ ). These data indicated an association between a high BI and an ENL reaction pattern.

Although the patient data concerning duration of the disease is not very reliable, this information has been included in the official epidemiological record, and is, therefore, available for analysis. In our country, it is widely accepted that there is a positive correlation between a high grade of disability ( $GD \geq 2$ ) and the length of the disease.

TABLE 2

A: Baciloscopic index of total patients distributed in with reaction (yes) and no reaction (no), before MDT treatment.  
B: Baciloscopic index of ENL or RR patients, before MDT treatment

A						
BACILOSCOPIC INDEX						
REACTION	1	2	3	4	$\geq 5$	N° PAT.
NO	11	15	23	16	4	69
	15.0%	21.7%	33.3%	23.2%	5.8%	42.9%
	47.8%	44.1%	48.9%	34.0%	36.4%	
YES	12	19	24	31	7	93
	12.9%	20.4%	25.8%	33.3%	7.6%	57.4%
	52.2%	55.9%	51.1%	66.0%	63.6%	
N° PAT.	23	34	47	47	11	162
	14.2%	21.0%	29.0%	29.0%	6.8%	
B						
BACILOSCOPIC INDEX						
REACTION	1	2	3	4	$\geq 5$	N° PAT.
ENL	0	6	14	27	4	51
	0.0%	11.8%	27.5%	52.9%	7.8%	54.8%
	0.0%	31.6%	58.3%	87.1%	66.7%	
RR	12	13	10	4	3	42
	28.6%	31.0%	23.8%	9.5%	7.2%	45.2%
	100.0%	68.4%	41.7%	12.9%	33.3	
N° PAT.	12	19	24	31	7	93
	12.9%	20.4%	25.8%	33.3%	7.6%	

N° PAT = number of patients

BI: 1 = 0.01-1.00; 2 = 1.01-2.00; 3 = 2.01-3.00; 4 = 3.01-4.00;  $\geq 5 = > 4.01$

A Chi-square p value = 0.66333246

B Chi-square p value = 0.00000311

**TABLE 3**

Distribution of the grade of disability of total patients distributed in with reaction (yes) and no reaction (no), and ENL or RR patients, before MDT treatment

REACTION	DISABILITY GRADE				REACTION	DISABILITY GRADE			
	0	1	2	N° PAT.		0	1	2	N° PAT.
NO	24	25	20	69	ENL	22	16	13	51
	34.8%	36.2%	29.0%	42.6%		43.1%	31.4%	25.5%	54.8%
	35.8%	42.4%	55.6%			51.2%	47.1%	81.3%	
YES	43	34	16	93	RR	21	18	3	42
	46.2%	36.6%	17.2%	57.4%		50.0%	42.9%	7.1%	45.2%
	64.2%	57.6%	44.4%			48.8%	52.9%	18.8%	
N° PAT.	67	59	36	162	N° PAT.	43	34	16	93
	41.4%	36.4%	22.2%			46.2%	36.6%	17.2%	

N° PAT = number of patients  
 Chi-square p value = 0.15476201

Chi-square p value = 0.06166371

At the onset of the study, 10% of the patients had had a history of disease for up to six months prior to their first examination, 18% of patients from 7 to 12 months; 22% from 13 to 18 months; 4% from 19 to 24 months, and 46% of patients for more than 24 full months. The incidence rate of reaction - although not statistically significant - was slightly higher among those patients who had been ill for 2 or more years. Four patients were not able to determine when the illness had begun.

The grade of disability at the moment of diagnosis was as follows: 41% were grade 0; 36% were 1; and 22% were grade 2. Considering only those patients who presented reactional episodes at the moment of diagnosis and/or developed reactions during treatment, 46% began the study at grade 0; 37% at grade 1; and 17% at grade 2 (Table 3). At the same time, among those who did not present any reactional episode, 35% were at 0; 36% were at 1; and 29% were at grade 2. There was no statistical difference between the level of the grades of disability at diagnosis and the occurrence of reactional states.

When the initial grade of disability was compared to the risk of developing ENL or RR, it was found that among the 43 patients with grade of disability 0, 51% developed ENL and 49% developed RR. Among those with grade 1, 47% had ENL and 53% had RR, while 81% with grade 2 had ENL (Table 3). In conclusion, there was no correlation between the grades of disability observed at diagnosis and the potential risk of developing reaction during treatment. In addition, there was no detectable correlation between grade of disability and type of reaction (p=0.06).

The age of the 162 patients under study ranged from 7 to 73 years of age (mean=36.09 SD 16.44). Among those that developed reactional states, the age distribution was practically the same from 8 to 69 (mean=37.67 SD 15.65). It is interesting to note that the age of the nonreactional patients also ranged from 7 to 73

**TABLE 4**

Distribution of the patients with and without reaction according to the age at diagnosis

AGE	REACTION		
	NO	YES	N° PAT
0-19	18	9	27
	66.7%	33.3%	16.7%
20-39	27	46	73
	37.0%	63.0%	45.1%
40-59	39.1%	49.5%	
	18	29	47
>60	38.3%	61.7%	29.0%
	26.1%	31.2%	
N° PAT	6	9	15
	40.0%	60.0%	9.3%
	8.7%	9.7%	
	69	93	162
	42.6%	57.4%	

N° PAT = number of patients  
 Chi-square p value = 0.05184448

AGE	REACTION		
	NO	YES	N° PAT
0-14	10	3	13
	76.9%	23.1%	8.0%
> 14	14.5%	3.2%	
	59	90	149
N° PAT	39.6%	60.4%	92.0%
	85.5%	96.8%	
	69	93	162
	42.6%	57.4%	

Chi-square p value = 0.02046433

(mean=33.80 SD 17.37). Table 4 shows patient distribution according to age group and occurrence or non-occurrence of reactional states. A significant difference in age group distribution was observed when those that presented reactions and those that did not were compared. The patients without reactions predominated on the left spectrum in terms of age (<14 years), whereas the reactional patients were all above 14 years. An interesting observation is that reversal reaction predominated among those over 40 years of age, while ENL was highest among the 20-to-39-year-old group.

## DISCUSSION

The present study was an analysis of the incidence of reaction among 162 patients during the entire 2-year period of the WHO fixed-dose regimen for multibacillary patients, in an effort to correlate the clinical pattern of the patient, duration of the disease, and the expression of reactional states. All patients were baciloscopically positive (ranging from 0.33 to 5.16) and lepromin negative.

To our knowledge, there are very few studies available analysing the incidence of reaction among multibacillary patients during the WHO regimen<sup>1,22</sup>. A comparative analysis of this study to similar ones raised certain difficulties. Some of the studies under consideration included hospitalized and/or out-patients<sup>2, 9, 17</sup>, while others were retrospective analyses of control program records in which newly diagnosed and pre-treated patients were lumped together<sup>1,2</sup>. None of our patients had had any previous leprosy treatment and they had all been recently diagnosed in our Leprosy Care Outpatient Clinic.

Not unlike the percentages reported by other authors when only MB patients were recorded<sup>2, 7, 22</sup>, fifty-seven percent of the patients suffered at least one episode of reaction during the follow-up period (11% at the onset). Nonetheless, the differences employed in the classifications adopted and method of case-ascertainment did not allow for reliable comparative analysis.

The fact that under the current MDT regimen patients are examined by qualified personnel at least once a month and are encouraged to immediately report any unusual occurrences may account for the high reactional rates sometimes found as compared to the rates observed during the former adopted regimen<sup>6</sup>. PFALTZGRAF<sup>12</sup> has referred to a global rate of 25% among patients treated with dapsone before the MDT era. One recent study carried out at our Clinic did, however, show a lower incidence rate during MDT than was shown during the former national regimen (600 mg Riphampicin daily for 3 months plus DDS until negatation)<sup>5</sup>.

In the present study ENL occurred in 31% and RR in 26% of the total 162 patients. The high number of LL patients included in this study (33%) seems to explain the high levels of ENL. On the other hand, the incidence of RR was very low in LL patients (9%) in contrast to the borderline forms (BB:93%; BL:57%). The occurrence of 9% of RR within the group of patients classified as LL probably fulfills the Ridley & Waters<sup>16</sup> criteria of subpolar

lepromatous patients, unless they were BL misdiagnosed.

Although it is widely known that borderline patients are at greater risk for reaction<sup>9,10,11</sup>, when the incidence of reaction among all the multibacillary clinical forms were analysed, no significant differences were found any(65% of BB, 52% of BL and 63% of LL), indicating that reactions occur within all groups of multibacillary patients. However, when type of reaction was analysed according to clinical form, a predominance of RR in BB and ENL in LL was observed ( $p < 0.05$ ).

These data were reinforced even when Ridley and Jopling is not adopted. The distribution of dermatological lesions was useful in indicating the potential for undergoing RR or ENL among MB patients; 72% of the patients with segmentary lesions presented RR correlating to 93% of RR in the BB form. RR tended to be a single episode (52%) in contrast to ENL, which tended to be recurrent. Only 25% of ENL patients had a single episode. Due to the high level of recurrence in ENL, it may be assumed that among MB patients, it is a contributing factor for the development of deformities<sup>13</sup>. In this study, gender had no influence in the development of reaction. The total number of males was much higher than the number of females, but the percentage of patients with reactions did not differ; 57% and 58% for males and females, respectively.

It was also demonstrated that the BI detected at the onset did not significantly influence the development of reaction, although an association between RR and the lowest BI as well as between ENL and the highest BI was observed.

It seems that multibacillary patients with low BIs and segmentary lesions for the most part classified as BB are at high risk for developing RR, while patients presenting the highest BIs and disseminate lepromatous lesions are at risk for developing ENL. These conclusions seem to be in agreement with previous reports even while taking into account differences in study design<sup>1,9,18</sup>.

This study also demonstrated that reactional episodes occurred throughout the entire course of leprosy treatment. At the moment of leprosy diagnosis, 11% of the patients were at some stage of a RR or ENL reactional state, which meant that not all of the reactions reported actually took place during treatment (46%). The effect of chemotherapy in reducing the viable bacillary load may be the key to the triggering of some levels or components of the immune response inhibited during the long-lasting chronic infection<sup>10,17</sup>. The first semester of treatment should be acknowledged as constituting the highest risk period for RR (52%). Patients at the highest risk of reaction (BB, BI  $\leq$  2) during this period should be given maximum attention<sup>1,8</sup>.

This study attempted to correlate the duration of disease and the potential to suffer reactions by evaluating the information provided by the patients at diagnosis and their grade of disability at intake.

The grade of disability of patients evaluated at diagnosis (all were newly-diagnosed) ranged from 0 to 2. Since it is known that during treatment the worsening of disability grade is closely related to occurrence of reactions, the fact that grade 2 patients are at risk of

presenting reaction was taken into account.

Amazingly, no correlation was observed between the grade presented by the patients upon admission and the occurrence or non-occurrence of reaction during treatment. Similarly, no correlation was detected when RR or ENL reactions developed by the patients were compared to different grades of disability. Much more need to be learned about the clinical events before diagnosis in order to clarify this point. Although the grade of disability is an acceptable marker for the probable length of the disease, this study showed that it is not a useful tool for predicting reactions during MDT.

When analysing the frequency of reaction according to age group, those patients under 14 years of age presented a significantly lower incidence rate of reaction than those over 14, which seems to reinforce the hypothesis that a shorter period of infection would imply a fewer number of reactional episodes. Because of the high risk of permanent damage to the peripheral nerve trunk during any reactional episode, the early identification of patients at risk as well the early introduction of treatment are imperative measure to be adopted in all leprosy control programs.

## RESUMO

### Estados reacionais em pacientes com hanseníase multibacilar durante multidrogaterapia (MDT)

Reações são ocorrências comuns no curso da hanseníase e são responsáveis pelo agravamento das lesões neurais. Uma coorte de 162 pacientes recém-diagnosticados, baciloscopicamente positivos, em acompanhamento no Ambulatório de Hanseníase da Fundação Oswaldo Cruz (FIOCRUZ) foi selecionada para estudo. Observou-se que 46% dos pacientes multibacilares submetidos a 24 doses fixas de poliquimioterapia (PQT) apresentaram reações durante o tratamento; todos multibacilares eram suscetíveis e cuidados e atenção constantes eram necessários. Quatorze por cento foram classificados como BB, 52% como BL e 33% como LL. Nenhuma das variáveis em estudo, tais como: sexo, idade, forma clínica, tempo de doença, extensão das lesões dermatológicas, índice baciloscópico (IB), ou grau de incapacidade associaram-se a reação entre os pacientes estudados. Reação Reversa (RR) ocorreu em 45% e Eritema Nodoso Hansênico (ENH) em 55% dos casos. Entre os pacientes BB que desenvolveram reação (15 pacientes), 93% apresentaram RR, enquanto entre os pacientes LL que tiveram reação (34 pacientes), 91% apresentaram ENH. Por outro lado, ENH foi mais frequente entre aqueles com lesões difusas, enquanto RR foi mais frequente em pacientes com lesões localizadas. O RR ocorreu principalmente nos primeiros meses de tratamento. A taxa de recorrência do ENL foi significativamente maior que a do RR. Nenhum grau de incapacidade nem IB esteve associado com RR e ENL. Entretanto a taxa de RR foi significativamente maior entre pacientes mostrando IB < 3, enquanto que o ENH predominou entre os pacientes com IB > 3.

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