TEGUMENTARY LEISHMANIASIS (TL) CAUSED BY *LEISHMANIA VIANNIA BRAZILIENSIS* IN THE GENITAL ORGANS

LEISHMANIOSE TEGUMENTAR (LT) CAUSADA POR *LEISHMANIA VIANNIA BRAZILIENSIS* EM ÓRGÃOS GENITAIS

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Clinical aspects of tegumentary leishmaniasis (TL) depend on the interaction between parasite virulence and the host immune response, with lesions most frequently occurring in uncovered areas of the body. About 80% of the lesions are located on upper and lower limbs. Genital lesions are rare. We followed up five patients with this presentation at the outpatient clinic. Objective – Report the clinical and laboratory of five patients with genital lesions caused by *Leishmania braziliensis*. Material and methods: Five cases of tegumentary leishmaniasis (TL) in the genital organs followed up at the outpatient clinic, as part of a series of 350 cases between 2000 and 2005, were studied. The patients were submitted to clinical-epidemiological assessment and exams (Montenegro skin test/MST, enzyme linked-immunosorbent assay/ ELISA and histophatology) for diagnostic. Treatment with N-methylglucamine antimonate (Glucantime®) at a dose of 15 to 17 mg/Sb^{+5}/kg/day/20 to 30 days, with follow-up of 12 months after treatment. Results - Patient age ranged from 6 to 62 years (mean: 32.8). There was a predominance of males 4(80%). All patients were from TL risk areas (Florestal/ Jequié, Itagiba, Jaguaquara, São Gonçalo/Contendas do Sincorá, Bahia) and none had a history of TL. The duration of the lesions until diagnosis ranged from 60 to 120 days (mean: 80). The most affected areas were the corpus of the penis and glans. Ulcerated lesions and a clean or granular base in the absence of satellite lymphadenopathy were observed in most cases (80%). The diagnosis was confirmed by leishmanin skin test positive (MST+/100%), *Leishmania*-reactive ELISA (60%), and histopathology with amastigote of *Leishmania* in 5(100%). All patients were cured. Conclusions - In our cases studied, only one patient had concomitant lesions but none of the patients had a history of TL, indicating that the disease started by direct inoculation of the parasite into the affected area. Patient habits such as sleeping naked and the lack of intradomiciliary sanitary installations support this hypothesis since they permit the exposure of normally covered body areas. Another important aspect is the inclusion of genital lesions of TL in the differential diagnosis of sexually transmitted and neoplastic diseases since its clinical can simulate diseases such as syphilis and carcinoma. An early diagnosis facilitates adequate treatment and a favorable prognosis for the patients.

Key words: Tegumentary leishmaniasis, genital organs, genital ulcer, *Leishmania braziliensis*, state of Bahia, Brazil.

A apresentação clínica na leishmaniose tegumentar (LT) depende da interação entre a virulência do parasita (Leishmania) e a resposta imune do hospedeiro, sendo o local de maior ocorrência de lesão, as áreas descobertas do corpo. A ocorrência de lesão em órgãos genitais é considerada rara. Nós acompanhamos 5 pacientes com lesões genitais causadas por Leishmania braziliensis em Unidade de Saúde (Centro de Referência em Doenças Endêmicas Pirajá da Silva-CERDEPS/PIEJ), localizada no Município de Jequié, região sudoeste da Bahia, área endêmica de LT, os quais, pretendemos descrever os aspectos clínicos e laboratoriais dos mesmos. Material e métodos - entre 2000 a 2005, foram acompanhados 5(1,4%) pacientes com lesões genitais causadas por L. braziliensis, os quais fazem parte de uma casuística de 350 casos atendidos no CERDEPS/PIEJ. Os pacientes foram submetidos à avaliação clinico-epidemiológica, e para confirmação diagnóstica, realizou-se exames: intrademorreação de Montenegro (IDRM), enzyme linked-immunosorbent assay/ELISA, e biópsia da borda de lesão/histopatologia. Os pacientes foram tratados com antimoniato-N-metilglucamina (Glucantime®) na dose de 15 a 17mg/Sb^{+5}/kg/dia/20 a 30 dias, com seguimento pós-tratamento de 12 meses. Resultados - A faixa etária dos pacientes variou de 4 a 62 anos (média 32.8), com predomínio do sexo masculino 4(80%). Todos os pacientes procediam de áreas de risco para LT (Florestal/Jequié, Itagiba, Jaguaquara, São Gonçalo/ Contendas do Sincorá – região sudoeste da Bahia), nenhum relatava historia pregressa de LT. A duração das lesões antes do diagnóstico variou de 60 a 120 dias (média 80). As áreas mais afetadas foram corpo do penis e glande, com lesões ulceradas de base granular. Ausência de adenite satélite foi observada na maioria dos casos (80%). O diagnóstico foi confirmado com IDRM+ (100%), ELISA reagente (60%), e histopatologia mostrando reação inflamatória crônica granulomatosa com presença de formas amastigotas de Leishmania em 5(100%), todos apresentaram cura clínica. Conclusões - nos casos estudados, somente um paciente apresentou lesão concomitante de pele, nenhum tinha história pregressa de LT indicando que a doença começou por inoculação direta do parasita (Leishmania) na área comprometida. Hábitos como: dormir sem roupa, e ausência de instalações sanitárias no domicilio, fortalecem a hipótese de transmissão, pois, permitem a exposição de áreas normalmente cobertas do corpo. Outro aspecto a ser avaliado é incluir as lesões genitais causadas por Leishmania no diagnóstico diferencial de doenças sexualmente transmissíveis e/ ou neoplásicas. Esta apresentação clínica simula outras doenças como sífilis, e carcinoma. O diagnóstico precoce facilita o tratamento e prognóstico favorável aos pacientes.

Palavras-chave: leishmaniose tegumentar, órgãos genitais, úlcera genital, Leishmania braziliensis, estado da Bahia, Brasil.

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In the Americas, tegumentary leishmaniasis (TL) represents one of the main public health problems[20]. Within its clinical spectrum, cutaneous leishmaniasis (CL) is the most prevalent and is characterized by the presence of one or more localized ulcers predominantly in uncovered areas of the body such as the extremities (upper and lower limbs)[10 13]. First, single or multiple erythematous-papular lesions appear at the site of the bite of the sandfly vector, which progress to papular-pustular and ulcerative-crusty lesions, and finally become painless circular ulcers with infiltrated frame-like borders and a base containing coarse granulations which are covered or not with a seropurulent exudates[10].

Due to its complexity, TL has been classified into different clinical forms[4 10 14]. In Brazil, TL is characterized by single or multiple skin and/or mucosal lesions which range from inapparent forms or discrete skin lesions that present spontaneous cure to multiple ulcerations with mucosal involvement that tend to present metastases and recurrence[5 6 7 10].

Although lesions are found at any site of the body, their occurrence in genital organs is considered to be rare. Marsden[11], reported that in Três Braços, Bahia, an area epidemic for TL caused by *Leishmania braziliensis*, primary lesions in genital organs and buttocks were uncommon and were due to environmental exposure of the body during excretory activities (miction and defecation). According to the author, these lesions may also result from possible hematogenic dissemination of the parasite (*Leishmania*) in patients with multiple lesions, a fact not observed by Costa *et al*.[6], in the same region.

TL lesions in genital organs have occasionally been observed at the outpatient clinic CERDEPS/PIEJ/SESAB, Municipality of Jequié, southeastern of the State of Bahia. In view of the rarity of cases and diagnostic and treatment difficulties, we describe here the clinical and laboratory of five cases of TL, with genital lesions in order to contribute to a better understanding of this clinical presentation which is considered to be uncommon in Brazil.

Material and Methods

Five patients with lesions in the genital organs, corresponding to 1,5% of a series of 350 cases of TL, from municipalities in the area attended by the Centro de Referencia em Doenças Endêmicas Pirajá da Silva, CERDEPS/PIEJ/SESAB, Jequié, southeastern Bahia, were studied. In these areas, the main parasite involved is *Leishmania braziliensis*, and the main vector of transmission of the disease is *Lutzomyia whitimani*[17].

The patients were registered at CERDEPS/PIEJ and received a code (LTAJ - Jequié American Tegumentary Leishmaniasis), and demographic, epidemiological and clinical data were obtained. The diagnosis was made based on clinical features and the following laboratory exams: Montenegro skin test (MST), serological test (enzyme-linked immunosorbent assay/ELISA), and histopathology analysis of a biopsy obtained from the lesion border according to Magalhães *et al*.[9]. All patients were treated with N-methylglucamine antimonate (Glucantime®) at a dose ranging from 15 to 17 mg/ Sb^{5+}/kg body weight/day for 20 to 30 days.

Results

Patient age at the time of diagnosis ranged from 4 to 62 years (mean: 32.8 years), and there was a predominance of males (four cases). Regarding occupation, two (40%) patients were laborers, one was a student, one was a minor, and one was a physician. All patients were from the southeastern region of the state including the municipalities of Jequié (Distrito de Florestal, 2 cases), Itagiba (1 case), Jaguaquara (1 case), and Contendas do Sincorá (Povoado de São Gonçalo, 1 case). None of the patients had a history of MCL. The number of lesions ranged from one to two, with the overt ulcerated form being observed in all cases. The duration of the lesions until the diagnosis ranged from 60 to 120 days (mean: 80 days). The most affected sites were the corpus of the penis and glans. The lesions had a mean size of 2.0 x 1.5 cm and presented in most cases (80%) as ulcers with elevated borders (except for plane borders in patient 3) and a clean or granular base in the absence of satellite lymphadenopathy (Table 1 and Figures 1 and 2).

With respect to the laboratory, 5 (100%) patients presented a MST (+) and 3 (60%) were ELISA (+). Histopatholoy analysis revealed an exudative and granulomatous necrotic reaction in 4 (80%) cases and a cellular exudative reaction in one (20%). Immunohistochemistry was positive for *L. braziliensis* in 4 (80%) cases. In relation to treatment, all patients received N-methylglucamine antimonate (Glucantime®) at a total dose ranging from 1.2 to 9 g, with good outcomes, and were cured on the last assessment in April 2006.

Discussion

TL is endemic throughout the southeastern region of Bahia where it is caused by *L. braziliensis*. The clinical spectrum of the disease varies according to the parasite-host interaction[15]. Involvement of genital organs has been rarely described and this low frequency is probably related to the use of clothes which prevent contact between the sandfly and these organs[11, 16]. The present patients were from areas attended by the CERDEPS/PIEJ/SESAB, where the sanitary installations are precarious, so that the individuals are exposed during physiological activities such as miction and defecation, in addition to the habit of sleeping naked as reported by one of the patients. In Contendas do Sincorá, the area of origin of one of the patients studied, 38.2% of the sandflies captured inside and around dwellings were *Lutzomyia intermedia*[17]. Schubach *et al*.[16], reported that the detection of these sandflies close to dwellings characterizes a cycle of peridomiciliary transmission of TL, which is already common in certain regions of Brazil[8].

Four patients were males who presented lesions on the corpus and glans penis that were characterized by painless

Table 1. Clinical characteristics of the genital lesions observed in the five patients studied.

Patient	Location of the lesion	Lesion duration (days)	Number of lesions	Lesion aspect (genital organ)	Concomitant lesions	Satellite lymphadenopathy	Interval between disease onset and diagnosis (days)
1	Corpus of penis and glans	60	2	Ulcer/elevated borders/granular base (2 x 1.5 cm)	Absent	Absent	60
2	Genitalia (vulva)	40	4	Ulcer/elevated borders/granular base (4 x 1.5 cm)	Left lower limbs Right upper limbs	Absent	40
3	Corpus of penis	120	1	Ulcer/plane borders (5 x 2.1 cm)	Absent	Absent	120
4	Glans	90	2	Ulcer/elevated borders/ clean base	Right mandible	Present	90
5	Corpus of penis	90	2	Ulcers/elevated borders/granular base	Absent	Absent	90

Figure 1. (a) - Two lesions on the corpus of the penis (lower surface): one overt ulcerated lesion with elevated borders and a base presenting local exudation, and another lesion with local infiltration involving the glans penis. (b) - The sames lesions after 30 days of therapy with Glucantime®. Note presence of scars.

ulceration associated with a local inflammatory reaction, findings common in reports of genital lesions in the Americas[2, 3, 11, 16]. On the other hand, since vulvar lesions in females are rare due to the less frequent exposure of women to the transmission cycle of TL, physicians should include this disease in the differential diagnosis with other vulvar infections when examining these lesions[12, 19].

Marsden[9], reported that in areas where *L. braziliensis* predominates, up to 5% of skin lesions are preceded by mucosal lesions, which affect nasal cartilage, pharynx, palate and even the larynx. The lesions affecting the glans and vulva described here did not seem to have followed the physiopathogenic mechanisms that culminate in this type of presentation, but were rather caused by direct inoculation of the parasite as a result of the habits of these patients.

Figure 2. Lesion on the corpus of the penis (anterior view): overt ulcerated lesions with elevated borders and a granular base extending to the glans penis.

Another important aspect is the need to broaden the differential diagnosis of genital ulcers in order to include parasitic-infectious diseases such as TL among the possible diagnoses together with sexually transmitted diseases in endemic areas of leishmaniasis and neoplasms[1, 3, 16, 18].

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