Rev. Inst. Med. Trop. Sao Paulo
56(4):361-362, July-August, 2014
doi: 10.1590/S0036-46652014000400016

CASE REPORT

RESOLUTION OF CUTANEOUS LEISHMANIASIS AFTER ACUTE ECZEMA DUE TO INTRALESIONAL MEGLUMINE ANTIMONIATE

Erica de Camargo Ferreira e VASCONCELLOS(1), Maria Inês Fernandes PIMENTEL(1), Cláudia Maria VALETE-ROSALINO(1,2), Maria de Fátima MADEIRA(1) & Armando de Oliveira SCHUBACH(1,3)

SUMMARY

We report a case of a 42 year-old female, who came to a leishmaniasis reference center in Rio de Janeiro, Brazil, presenting a cutaneous leishmaniasis lesion in the right forearm. Treatment with low-dose intramuscular meglumine antimoniate (MA) (5 mg Sb^{5+}/kg/day) was initiated, with improvement after 28 days, although with the development of generalized eczema. After 87 days, the lesion worsened. Patient refused treatment with amphotericin B. MA was then infiltrated in the lesion, in two sessions, resulting in local eczema, with bullae formation; however, twenty days after, both the ulcer and eczema receded. Intralesional administration of MA should be used carefully when previous cutaneous hypersensitivity is detected.

KEYWORDS: Cutaneous leishmaniasis; Therapy; Intralesional; Meglumine antimoniate; Eczema.

CASE REPORT

American tegumentary leishmaniasis (ATL) is an infectious disease caused by protozoa of *Leishmania* genus, transmitted by female sandflies (Phlebotominae). Few medications are efficient in its treatment, among them meglumine antimoniate (MA). Due to the difficulties linked to the administration of MA, less toxic alternative therapies with low doses or intralesional injections (IL) of MA have been studied[5,6]. We report a case of a patient who presented resolution of cutaneous leishmaniasis (CL) after development of acute eczema in the site of the injection of MA.

A 42 year-old white female, who signed a free informed consent form, came to the Leishmaniasis Surveillance Laboratory, Evandro Chagas Clinical Research Institute, Oswaldo Cruz Foundation, Rio de Janeiro, Brazil, presenting a CL lesion in the right forearm for 45 days. Imprint of the lesion showed amastigotes parasites, and *Leishmania (Viannia) braziliensis* was identified from the culture of a fragment of the lesion obtained through biopsy. Mucosal lesions were not seen in fiber optic otorhinolaryngological examination of the upper airways and digestive tract. Treatment with low-dose intramuscular (IM) MA - 5 mg Sb^{5+} per kilogram per day - was initiated (Aventis, São Paulo, Brazil). After a 28-day treatment, she improved. However, she presented generalized eczema, treated with oral dexclorpheniramine and dexametasone ointment. After 87 days, the ulcer worsened (Fig. 1A). The second choice drug, amphotericin B desoxycolate, was offered to the patient, but she refused to be hospitalized and reported difficulties in going to the hospital three times a week to receive the medication in a day-hospital regimen. Alternative drugs such as pentamidine and liposomal amphotericin B were not available. Treatment was started with 7 mL of MA, without any diluents, injected into the lesion edge until its whole base got infiltrated. She developed moderate local eczema. Oral dexchlorpheniramine was prescribed and the ulcer improved. After 13 days, a second IL MA injection was made, with 5 mL of this drug, and the eczema worsened, with bullae formation (Fig. 1B); however, twenty days after, both ulcer and eczema receded (Fig. 1C).

IL way of administration is a viable alternative to systemic MA in older people or in conditions in which systemic treatment is not tolerated, due to its efficacy and infrequent, slight to moderate adverse events[5,6]. Local therapy was considered unsuitable for the treatment of New World cutaneous leishmaniasis caused by *L. (V.) braziliensis* or *L. (V.) panamensis* because of the potential risk of mucosal metastasis; however, as systemic treatment does not guarantee prevention of later mucocutaneous leishmaniasis, which is found in less than 5% of the cases, local treatments should be explored. It is now considered acceptable to use local therapy in selected cases of New World cutaneous leishmaniasis. The World Health Organization states that in patients with mild disease or with comorbid conditions, treatments safer than systemic therapy should be preferred, even if the level of evidence for efficacy is weak[7].

(1) Leishmaniasis Surveillance Laboratory, Evandro Chagas Clinical Research Institute, Oswaldo Cruz Foundation, Rio de Janeiro, RJ, Brazil.
(2) Otorhinolaryngology and Ophthalmology Department, Rio de Janeiro Federal University, Rio de Janeiro, RJ, Brazil
(3) Productivity scholarship from Scientific and Technology National Council (CNPq), Brasília, Brazil; and Our State Scientist from Carlos Chagas Filho Foundation for the Research Support in Rio de Janeiro State (FAPERJ).
Correspondence to: Érica de Camargo Ferreira e Vasconcellos, Av. Brasil 4365, Manguinhos, 21040-360 Rio de Janeiro, RJ, Brasil. Phone: +55 21 3865-9541. E-mail: erica.vasconcellos@ipec.fiocruz.br

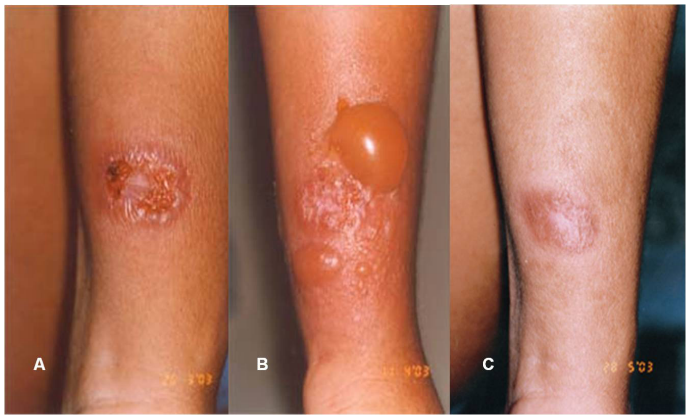

Fig. 1 - Lesion's follow up: **A -** Ulcerated lesion, before the first intralesional infiltration, measuring 20 x 10 mm, with infiltrated erythematous borders, partially covered by crusts and with an epithelialized center of about 5 mm. **B** - Edema of the forearm and hand, after the second intralesional infiltration of the lesion with meglumine antimoniate. Infiltration, erythema and coalescing vesicles, turning into larger bubbles of up to 35 mm. **C** - Atrophic scar, with erythema, residual hyperpigmentation on the spot where the biggest bubble was located (49 days after the second intralesional meglumine antimoniate).

ASTE *et al.* (1998) had a successful experience with this local therapy, with 11% of the patients presenting mild reactions, such as erythema or pruritus, without systemic adverse effects. Patients didn't need to interrupt the treatment[1].

CORDOBA *et al.* (2012) described a series of 70 patients with cutaneous leishmaniasis, treated with weekly intralesional infiltrations of MA (Glucantime®). Nine of them developed infiltrated itchy erythematous and vesiculous plaques at the injection sites. After cutaneous tests, they concluded that type IV hypersensitivity could be involved in the mechanism of the cutaneous reaction[3].

Some other diseases have been occasionally treated with local drugs that induce hypersensitivity reactions; resolution of warts with dinitrochlorobenzene (DNCB) is well documented[4]. In an animal model with guinea pigs, DNCB inhibited the development of leishmaniasis cutaneous lesions, but only when applied in the infection sites[2].

Probably, hypersensitivity to MA was involved in the resolution of the lesion in our patient. Although the response to treatment in the present case was excellent, the great intensity of the eczematous local cutaneous reaction is indicative that this way of administration should be used carefully as an alternative to systemic MA treatment, when previous cutaneous hypersensitivity is detected.

RESUMO

Resolução de leishmaniose cutânea após eczema agudo devido a antimoniato de meglumina intralesional

Relatamos caso de paciente de 42 anos atendida em centro de referência em leishmanioses no Rio de Janeiro, Brasil, apresentando lesão de leishmaniose cutânea no antebraço direito. Iniciado tratamento com baixa dose de antimoniato de meglumina (AM) intramuscular (5 mg Sb^{5+}/kg/dia), houve melhora após 28 dias, porém com desenvolvimento de eczema generalizado. Após 87 dias, notou-se piora da lesão. A paciente recusou o tratamento com anfotericina B. Infiltrou-se AM na lesão em duas sessões, resultando em eczema local com bolhas. Entretanto, 20 dias depois, tanto a úlcera quanto o eczema regrediram. A administração intralesional do AM deve ser utilizada com cautela em pacientes com hipersensibilidade cutânea a este fármaco.

ACKNOWLEDGMENTS

This study was supported by IPEC/FIOCRUZ.

CONFLICT OF INTEREST

There is no conflict of interest regarding any of the authors.

AUTHORS AND CONTRIBUTORS

Érica de Camargo Ferreira e Vasconcellos: literature search, data collection, figures, writing. Maria Inês Fernandes Pimentel: literature search, data collection, figures, writing. Cláudia Maria Valete-Rosalino: patient assistance (otorhinolaryngological), writing. Maria de Fátima Madeira: patient assistance (laboratorial diagnosis and species characterization), writing. Armando de Oliveira Schubach: literature search, figures, patient assistance (dermatological), writing.

REFERENCES

1. Aste N, Pau M, Ferreli C, Biggio P. Intralesional treatment of cutaneous leishmaniasis with meglumine antimoniate. Br J Dermatol. 1998;138:370-1.

2. Behin R, Mauel J, Rowe DS. Mechanisms of protective immunity in experimental cutaneous leishmaniasis of the guinea-pig. III. Inhibition of leishmanial lesion in the guinea-pig by delayed hypersensitivity reaction to unrelated antigens. Clin Exp Immunol. 1977;29:320-5.

3. Córdoba S, Gandolfo Cano M, Aguado M, Huerta-Brogera M, Romero A, Martínez-Morán C, *et al.* Delayed allergic skin reactions due to intralesional meglumine antimoniate therapy for cutaneous leishmaniasis. Allergy. 2012;67:1609-11.

4. Kwok CS, Gibbs S, Bennett C, Holland R, Abbott R. Topical treatments for cutaneous warts. Cochrane Database Syst Rev. 2012;9:CD001781.

5. Oliveira-Neto MP, Schubach A, Mattos M, da Costa SC, Pirmez C. Intralesional therapy of American cutaneous leishmaniasis with pentavalent antimony in Rio de Janeiro, Brazil - an area of *Leishmania (V.) braziliensis* transmission. Int J Dermatol. 1997;36:463-8.

6. Vasconcellos EC, Pimentel MI, Schubach AO, de Oliveira RV, Azeredo-Coutinho RB, Silva FC, *et al.* Intralesional meglumine antimoniate for treatment of cutaneous leishmaniasis patients with contraindication to systemic therapy from Rio de Janeiro (2000 to 2006). Am J Trop Med Hyg. 2012;87:257-60.

7. World Health Organization. Control of the leishmaniases: report of a meeting of the WHO Expert Committee on the Control of Leishmaniases, Geneva, 22-26 March 2010. Geneva: WHO; 2010. (WHO Technical Report Series; no. 949)

Received: 2 August 2013
Accepted: 14 November 2013