Multifocal Cutaneous Leishmaniasis: a New Clinical Presentation of the Disease

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Sir,

Cutaneous leishmaniasis (CL) is an infection caused by protozoa belonging to the genus *Leishmania* (*L.*). The disease is transmitted by sandflies: *Phlebotomus* (*P.*) spp. and *Lutzomyia* spp. are the most frequently involved. Disease reservoirs are represented by dogs, mice, rats, wild rodents and, more rarely, humans.

CL is very frequent in the Mediterranean Basin, especially in Sicily. *L. infantum*, transmitted by *P. pappatasi, P. perfiliewi* and *P. perniciosus*, is responsible for all cases observed in Sicily. From the clinical point of view, CL in the Mediterranean Basin is usually characterized by a single, polymorphous lesion located on exposed areas, in particular the face, followed by the upper limbs.

In the last few years, we have observed several patients with CL characterized clinically by multiple, monomorphous, slightly inflammatory, papular or papulo-nodular lesions. Some of these lesions appeared as "twin lesions".

We believe that this presentation represents a new clinical variety of CL, which has been called "multifocal CL" by other authors (1–3). The hypothesis of a new carrier involvement is advanced.

PATIENTS AND METHODS

Over the period 2001 to 2005 we observed 29 patients with CL characterized by multiple lesions. In all patients the diagnosis of CL was based on history, clinical picture, cytological examination of smear scraped from the lesions and histopathological examination. In 7 patients 2 biopsies were carried out. Polymerase chain reaction (PCR) was performed in 24 patients.

RESULTS

The case list comprises 29 Caucasian patients (20 males (69%) and 9 females (31%)), age range 1–84 years (mean age 37.3 years) (Table I). According to clinical history, no patient was previously affected by leishmaniasis. The disease was localized to the head and/or neck in 12 patients, the upper limbs in 12, the trunk in 7 and the lower limbs in 5. The number of lesions in each patient ranged from 2 to 16. All lesions were monomorphous, slightly inflammatory, papular or papulo-nodular (Figs 1–3). Some of them appeared as "twin lesions" (Figs 2 and 3). All patients were immune competent and in good general health.

The histopathological picture of the lesions did not differ from what is usually observed in typical cases of CL. In all investigated patients PCR was positive for *L. infantum* (see Table I).

Twenty-three patients were treated with local N-methyl-glucamine antimonate (1 peri- and intra-lesional injection/week for 3–6 weeks), either as monotherapy (n = 17) or in combination with cryotherapy (1 application of 10–30 sec per lesion/week for 3 weeks) (n=3) or oral antifungals (fluconazole or itraconazole) (n=3). Six patients received cryotherapy, cryotherapy and oral itraconazole, 20% paromomycin ointment or liposomal amphotericin B. All patients recovered. A transitory hyperchromic lesion developed in 2 patients treated with cryotherapy. A 3-month follow-up was negative in all patients.

Table I. *Patients' characteristics. All histopathological examinations were positive for leishmaniasis. Polymerase chain reaction (PCR) confirmed Leishmania infantum (except in cases 25–29 who were not examined by PCR)*

No.	Sex	Age	Localization of lesions	No. of lesions	CE
1	M	46	Right forearm	4	+
2	M	1	Left eyebrow and eyelid	3	+
3	F	4	Right ear, abdominal region	9	+
4	F	12	Right arm	2	–
5	F	68	Forehead	2	–
6	F	15	Forehead	2	–
7	M	36	Right pre-auricular region	2	–
8	M	15	Abdominal region	14	+
9	M	28	Right naso-labial fold, left neck, left knee	3	+
10	M	4	Left retro-auricular fold	2	–
11	M	52	Left forearm	2	–
12	F	81	Right pre-auricular region and retro-auricular fold	2	–
13	M	48	Left leg	4	+
14	M	45	Right upper limb, trunk	16	+
15	M	38	Right forearm	2	–
16	M	40	Left hand	2	–
17	M	44	Forehead, right arm, left forearm, chest, back	10	+
18	M	51	Abdominal region, back	3	+
19	M	84	Left knee	2	–
20	F	18	Forehead	2	–
21	M	58	Right arm	3	+
22	F	69	Right hand, left leg	8	+
23	M	19	Right forearm, right hand	2	–
24	M	47	Right forearm	2	–
25	F	29	Nose, left cheek	2	–
26	F	46	Left arm	2	–
27	M	32	Right hand	2	–
28	M	4	Left back, left thigh	2	–
29	M	47	Abdomen	7	+

CE: cytological examinations

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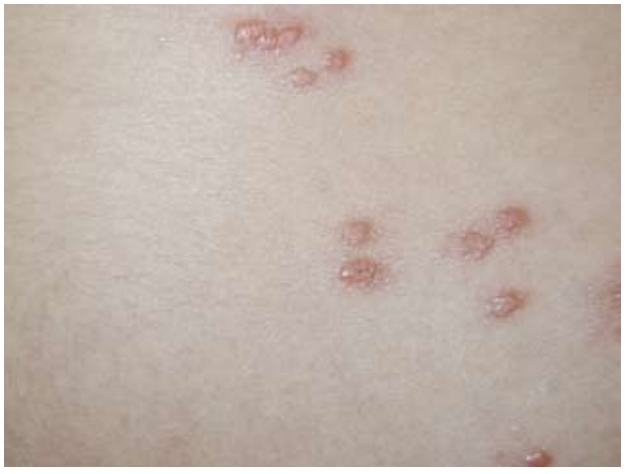

Fig. 1. Multiple papular lesions.

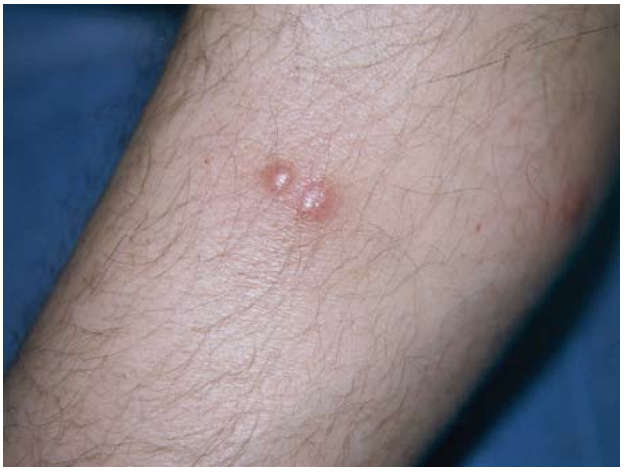

Fig. 3. Twin lesions on the right forearm.

DISCUSSION

In the last few years we have observed a new clinical variety of CL, which Paradisi et al. (1) recently named "multifocal CL".

This clinical variety of CL is characterized by multiple, monomorphous lesions. These lesions are very similar to each other, the only difference being their size. Furthermore, they usually appear as papules or small nodules, with very mild erythema, although this may be completely absent. Satellite papules are not uncommon in areas endemic for leishmaniasis, but often erupt after the start of the specific therapy.

CL caused by *L. infantum* is often characterized by atypical clinical features (4, 5). A relationship between genomic and clinical polymorphism has been suggested (6). However, multifocal CL might be caused by species of sandflies that are different from *P. pappatasi, P. perfiliewi* and *P. perniciosus*. It is known that these sandflies are lone arthropods that do not live in swarms. Furthermore, sandflies usually sting just once when feeding. It is therefore possible that multifocal CL is caused by sandflies that live in swarms (e.g. multiple lesions are the clinical results of multiple stings caused by several sandflies) or by a single sandfly that stings several times (2). Another fact that supports the hypothesis of a new carrier in multifocal CL is that all patients were observed in a well-defined area of Western Sicily (Agrigento, Palermo and Trapani provinces). In addition, all patients who were observed by one of us (S.V.) in Milan (Northern Italy) contracted the disease in the same area. However, we cannot exclude the possibility that multifocal CL may be caused by a mutant *Leishmania* spp. or by an individual atypical immune response to the protozoan.

A sub-variety of multifocal CL is represented by "twin lesions". These are usually constituted by a couple of papules, clinically almost identical, very close to each other (0.5–1.5 cm apart). Sometimes, only very small differences in size are visible.

Various kinds of treatments were used in these patients, on the basis of age, general health, compliance, location and morphology of the lesions. A complete response was observed in all patients.

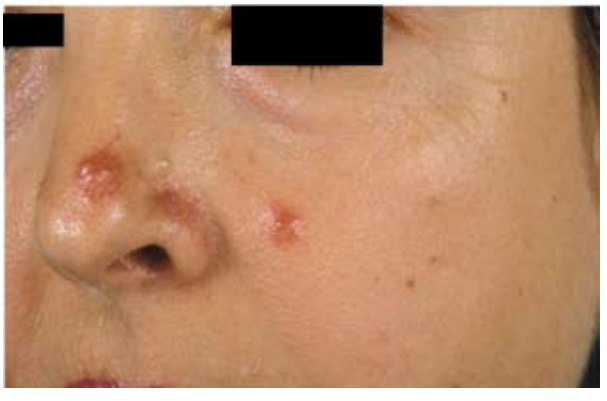

Fig. 2. Twin lesions on the nose and left cheek.

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