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Imported Cutaneous Leishmaniasis in Hungary

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Introduction

The number of imported exotic diseases – among them cutaneous leishmaniasis – is rapidly increasing due to the development of manifold connections with the tropical and subtropical countries, as well as to the growing rate of tourism. More and more Hungarian citizens travel year by year also to the developing countries. 31 cutaneous leishmania cases have been diagnosed in Hungarian subjects returning from endemic areas during the past three years.

This paper wants to call attention to the diagnostic and therapeutic problems of the imported disease which is non-endemic neither in Hungary nor in Central Europe. With reference to our cases I would like to report our new therapeutic results.

This well-known disease belongs to the zoonothroponoses, the pathogen is a protozoon of the family *Trypanosomatidae*. *Leishmania donovani*, *Leishmania tropica major* and *minor*, and *Leishmania braziliensis* are the most important pathogenes for humans. The infection is transmitted to human beings from animal hosts – primarily from dogs and small rodents – by small haematophagous insects, the Phlebotominae. The pathomechanism is different according to the leishmania species, causing the visceral (or kala-azar), the cutaneous and muco-cutaneous clinical forms.

Leishmaniasis cutanea is called Aleppo sore (first described by RUSSEL in 1756), Bagdadian, Moroccan or Oriental sore, referring to its place of origin.

From the clinical point of view it is a chronic, granulomatose, ulcerative skin-disease. The pathogenic agent is *Leishmania tropica* discovered by BOROWSKIJ in 1898. The vectors of the infection are the Phlebotomus species, the so-called “sandflies” that bite at night and the flagellates of the parasites are transplanted into the skin during the bite. The infection spreads from man to man very rarely and only in poor hygienic and social conditions (6).

Cutaneous leishmaniasis is endemic in mediterranean and subtropical areas, where the exposition is seasonal. In Europe it is endemic in some parts of Greece, but autochthonous infection occurs in Switzerland and South-France too (2, 3, 4, 5).

Patients and methods

31 cutaneous leishmaniasis cases were diagnosed and treated between 1981–1983. The majority of the patients (19) came from our outpatient clinic, where compulsory screening examinations are carried out with Hungarian subjects returning home during and after long-term service abroad.

Diagnosis

Specific tests of the skin lesions were performed besides routine laboratory tests. Mucus was taken from the sore base of the skin lesions for smear tests. Having been dried, the smears were fixed in methanol or stained with 10% Giemsa solution for 10 minutes. Pathogens were found in stained smears under microscope with 400–1000 fold enlargement. *Leishmania tropica* is a 3–5 μ size ovoid shaped protozoon, it occurs most frequently intracellularly, sometimes also extracellularly. In chronic cases the number of pathogens were significantly reduced, they could only be found intracellularly (Fig. 1).

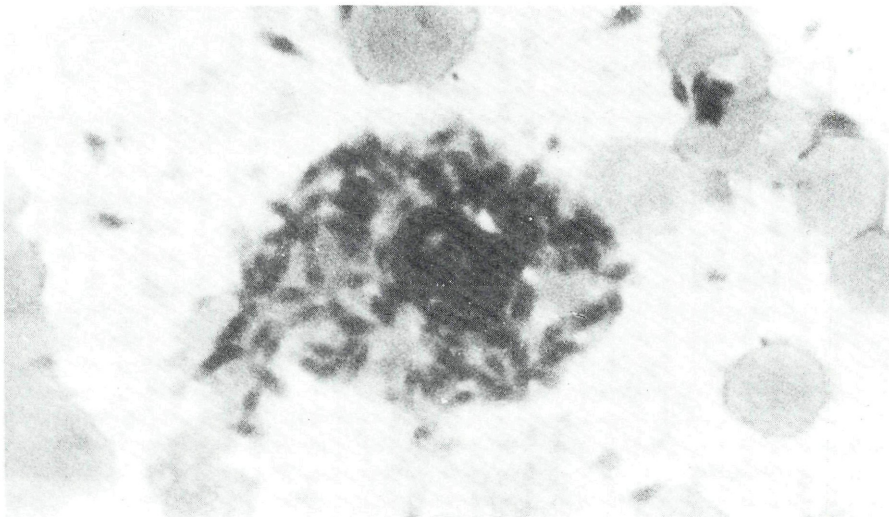


Fig.1

Therapy

Considering the therapy of cutaneous leishmaniasis there are different opinions. Out of several literary data we would like to support HENRIKSON's and LENDE's results with the local application of chlorpromazine in three cases in 1983 (1).

Patients were treated locally or both locally and systemically according to the number and size of the skin lesions and the quantity of pathogens. Sores on the surface were cleared with desinfectant ointment or antibiotics. Skin lesions were heated 3–4 times a day for 10 minutes each with infrared lamps. In some cases, when the first treatment seemed to be insufficient, the patient was treated with another method.

The following drugs were used systemically:

1. 300 mg chloroquine (Delagil®) was given to 6 patients daily for a week, it was completed with the local heating and chloroquine administration of the lesions.
2. Rifampicin (Tubocin®) was given to 6 patients 900 mg/day for 4 weeks, which was completed with local treatment.
3. Pentamidin (Lomidine®) was given to 3 patients 24 mg/day for 2–4 weeks.
4. 1 g/day metronidazole (Klion®) was applied in 2 cases for 2 weeks completed with local heating.

5. Pentavalent antimon compounds (Stibophen® or Glucanthime®) were used in 7 cases with total doses of 8 g.
6. 7 patients were given 150 mg/day chlorpromazine (Hibernal®) for 2–4 weeks which was completed with local treatment.

Chlorpromazine applied locally:

Cutaneous leishmaniasis skin-lesions were treated either with 0,2% chlorpromazine (25% salicyl vaselin ointment) or 5% chlorpromazine given directly to the lesions. This kind of treatment was applied in 16 cases. In about 50% of the total cases the local treatment was completed with chlorpromazine given systemically according to the spread and great number of skin lesions as well as to the quantity of protozoa.

Results

On the basis of the data of the histories of the diseases all infections were acquired in endemic countries periodically between 1981–1983 (table 1). The first cases were diagnosed in January 1982. Most cases – 20 of them – were imported from Iraque. The exposition time in most of the cases was late summer or early autumn. Only 2 patients were infected in February, as this is the peak time of infection in Kuwait.

TABLE 1: **Imported Cutaneous Leishmaniasis Cases**

Endemic area	Number of cases	Time of infection					
		1981		1982		1983	
		month	case	month	case	month	case
Algir	3	08	2	07	1	–	–
Iraque	20	–	–	07–09	14	02–09	6
Kuwait	1	–	–	–	–	02	1
Libya	4	09	1	08	1	09–10	2
Syria	3	09	2	–	–	08	1
Total	31		5		16		10

The bite of the Phlebotomus carrying the infection is painful and they always attack unclothed parts of the body. A small, quickly disappearing urtica develops in the place of the bite. Most of the patients had not even noticed them. Later, in the place of the bite – after a comparatively long incubation period of 3–4 months there appeared some yellow-red papulas peeling on the surface that did not seem to be of great importance at first. They gradually develop into 1–3 cm compact nodes covered with follicular hyperkeratous squamous crustae (fig. 2).



Fig. 2

Sores develop in the centres of the nodes with tissue necrosis. There were small deep crater-shaped or irregular flat sores of different size under the strongly adhering crustae with exsudative or dry compact infiltrative basis. Due to recovery they turn into star-, round-, or irregular-shaped scars.

Due to multiple bites small or large multiple skin lesions (max. 18, min. 2) developed in 24 cases (Fig. 3). Sores were super-infected by pyogens in 4 cases. Only 2 of 31 cases – diagnosed and treated in Iraque – were found negative with smear test in Hungary. *Leishmania tropica* could be shown from the skin lesions in 29 cases.

The results of the different therapeutic courses are summarized in table 2. We want to emphasize the effect of chlorpromazine given locally and systemically, which seemed to be a successful new method in the treatment of cutaneous leishmaniasis. To our knowledge, this was the first occasion when chlorpromazine was used both locally and systemically in the treatment of cutaneous leishmaniasis. It was applied in 16 cases with astonishing good results: the sores recovered unexpectedly soon within 3–6 weeks with systemic treatment in 7, and with only local treatment in 9 cases.

Discussion

On the basis of the published data and the above described systemic antiprotozoal treatment the therapy of cutaneous leishmaniasis still remains a problem (2, 5, 6).

The results of HENRIKSON and LENDEL (1) prompted us to introduce chlorpromazine treatment – with good results – both locally and locally and systemically. Different hypotheses exist concerning the mode of action of chlorpromazine; it is most probable that chlorpromazine – like other phenothiazines – is capable to bind to the DNA of the intracellular parasites which results in rapid recovery.



Fig. 3

TABLE 2: Effectivity of Therapy of Cutaneous Leishmaniasis

DRUG	Cases	Recovered	Improved	Unchanged
Chloroquine (Delagil®)	6	3	–	–
Rifampicine (Tubocin®)	6	2	4	–
Pentamidine (Lomidine®)	3	1	1	1
Metronidazole (Klion®)	2	–	–	2
Pentavalent antimon compounds (Glucantime® or Stibophen®)	7	3	4	–
Chlorpromazine (Hibernal®) systemically and locally	7	7	–	–
Chlorpromazine (Hibernal®) only locally	9	9	–	–

Summary

Thirtyone cutaneous leishmaniasis cases imported by Hungarian subjects are reported and the diagnostic possibilities and therapeutical experiences discussed. The authors describe the results obtained with chlorpromazine which was applied locally as well as locally and systemically in 16 cases. The cutaneous lesions healed within 3–6 weeks and during the follow-up no relapse was observed.

Zusammenfassung

Importierte kutane Leishmaniose in Ungarn

Die Autoren machen 31 Fälle von kutaner Leishmaniose, welche durch ungarische Staatsangehörige importiert wurde, und die damit zusammenhängenden diagnostischen und therapeutischen Erfahrungen bekannt. In 16 Fällen referieren sie aus Ergebnissen mit lokaler und systemischer Chlorpromazin-Therapie.

Wir stellten fest, daß die Hautschädigungen in 3–6 Wochen heilen und kein Rückfall zu registrieren war.

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