Infectious agent(s)

Protozoan parasites [1]: 1) *Leishmania major; 2) L. tropica; 3) L. infantum (very rare)*

WHO case definition

Suspected case

A person showing clinical signs (skin lesions). A papule appears, which may enlarge to become an indolent ulcerated nodule or plaque. The sore remains in this stage for a variable time before self healing and typically leaves a depressed scar. Other atypical forms may occur.

Confirmed case

A person showing clinical signs (skin lesions) with parasitological confirmation of the diagnosis (positive smear or culture from the skin lesion).

Mode of transmission

Mainly, as a vector-borne disease through bite of infective female phlebotomines (sandflies). *L. major*
is transmitted by
Phlebotomus papatasi
from the animal reservoir to humans.
L. tropica
is transmitted by
P. sergenti
from person to person.

Very rarely, *L. tropica* through transfusion.

Incubation period

- *L. major:* At least one week. Usually less than 4 months.
- *L. tropica*: At least one week. Usually 2–8 months.

Communicability period

- Not directly transmitted from reservoir to person, but infectious to sandflies as long as parasites remain in lesions in untreated cases, usually a few months to 2 years.

- Transmission is seasonal through adult sandflies. *P. sergenti* in Aleppo appears generally between May and October, with a usual peak in June and another in September.

- *P. papatasi* appears generally mainly in September–October.

Epidemiology and risk factors

Alert threshold

If the area is endemic, so the vector is present, data of the previous 5 to 10 years should be compared to the data of the similar duration (month), to assess if there is a sustained increase about to reach doubling of the cases above the previous years.

Epidemic threshold

If the area is endemic, data of the previous 5 to 10 years should be compared to the data of the similar duration (month), to assess if there is a sustained increase reaching at least doubling of the cases above the previous years.

Situation in countries affected by crisis in Syria

In the context of the Syrian crisis the cutaneous leishmaniasis form caused by *L. tropica* is the most important in terms of risk of being introduced in neighbouring countries. It also presents more treatment failures (up to 20% of cases may become chronic).

- Egypt: *L. major* in North Sinai. 864 cases reported in 2011 and 1260 in 2012.
- Iraq: *L. major*. 2978 cases reported in 2011 and 2486 in 2012.
- Jordan: Zoonotic forms are endemic. There is low risk of *L. tropica* causing outbreaks. In 2011, 136 cases caused by *L. major* were reported and in 2012, 103 cases.

- Lebanon: Very few cases caused by *L. infantum* are reported. In 2011, 5 cases were reported and in 2012, 2 cases. There is very low risk of *L. tropica* being introduced.

- Syria: Both *L. tropica* and *L. major* are endemic and transmission will continue.
- Turkey: *L. tropica* is endemic in southern Turkey and transmission will continue. The area is at risk of outbreaks.

Epidemiology

- In the Eastern Mediterranean Region an average of 100 000 cases in the last 11 years and more than 120 000 cases in the last 3 years have been reported.
- The main reservoirs of *Leishmania major* are rodents, gerbils, (e.g. *Psammomys obesus, Meriones spp*). Humans are the main reservoir for *L. tropica* .

- Generally less than 30% of those infected develop the signs of the disease, but variations are large depending on different epidemiological factors.
- Those who develop the disease usually present lifelong immunity after lesions due to *L. major* or *L. tropica* heal.

- The disease is self-curing in 2-8 months for *L. major* lesions and 1 year or much longer for *L tropica*.

Risk factors

- Lack of immunity against the parasite (*Leishmania*). Very high risk especially in areas lacking of herd immunity
- High exposure to infective sandfly bites
- Conducive environment to high contact human-infective vector-reservoir

Control and preventive measures

Laboratory diagnosis

- The diagnosis of cutaneous leishmaniasis is mainly done on clinical and epidemiological basis.
- The role of the laboratory is the confirmation of the causative agent by stained smear or culture from the skin lesion, especially in patients presenting atypical lesions or needing systemic treatment.
- There is no rapid diagnostic test that could assist in reaching the diagnosis.

Case management

The type of treatment is based on five clinical aspects [2], [3]:

- Size of the largest lesion
- Number of lesions

- Location of lesions
- Causative agent (type of *Leishmania* species)
- Immunologic status.

In all patients lesions should be washed with clean water and soap, then the lesion will be covered by a dressing (gauze and tape) to be changed three or four times per week, which facilitates healing and prevents the creation of a sticky crust.

REMEMBER: Cutaneous leishmaniasis may look like other skin conditions (e.g. pyodermitis, psoriasis, venous leg ulcer, wart, etc.). Other skin diseases may look like Cutaneous leishmaniasis (e.g. sarcoidosis, cutaneous tuberculosis, skin cancer, etc.) [4].

Prevention and control measures

- Avoid patients becoming a source of parasites to sandflies by covering the lesions (wash/dressing) and using insecticide-treated bed nets [5].
- Avoid healthy people acquiring the disease by using insecticide-treated bed nets [6].
- Ensure active case finding to allow early diagnosis and prompt treatment, especially for cases due to *L. tropica.*
- Physically modify sandfly breeding and resting sites, in specific contexts, mainly for *P. papatasi*, by destroying the burrows of the gerbil or the specific plants eaten by certain rodents.

- Eliminate sandfly breeding sites such rubble, rubbish heaps or wall cracks, especially in urban areas.
- Strengthen or establish the surveillance system to assess disase trends.
- Create a multisectoral coordination mechanism, especially in *L. major* endemic areas.

No vaccine is currently available.

References

[1] Control of the leishmaniases. Report of a meeting of the WHO Expert Committee on the control of leishmaniasis, Geneva, 22–26 March 2010
Arabic | French

[2] Manual for case management of cutaneous leishmaniasis in the WHO Eastern Mediterranean Region [pdf 195Mb]

[3] Summary of clinical scenarios and their treatment (source [2])

[4] Douba MD et al. Chronic cutaneous leishmaniasis, a great mimicker with various clinical presentations: 12 years experience from Aleppo. J Eur Acad Dermatol Venereol. 2012 Oct;26(10):1224–9

[5] Technical consultation on specifications and quality control of netting materials and mosquito nets

WHO recommended long-lasting insecticidal mosquito nets

Product name	Product type	Status of WHO recommendation	Status of publication of W
DawaPlus®	Deltamethrin coated on polyester	Interim	Published
Duranet®	Alpha-cypermethrin incorporated into polyethylene	Interim	Published
Interceptor®	Alpha-cypermethrin coated on polyethylene	Full	Published
LifeNet®	Deltamethrin incorporated into polypropylene	Interim	Published
MAGNet®	Alpha-cypermethrin incorporated into polyethylene	Interim	Published
Netprotect®	Deltamethrin incorporated into polypropylene	Interim	Published
Olyset®	Permethrin incorporated into polyethylene	Full	Published
Olyset Plus®	Permethrin and PBO incorporated into polyethylene	Interim	Pending
PermaNet® 2.0	Deltamethrin coated on polyester	Full	Published
PermaNet® 2.5	Deltamethrin coated on polyester with strengthened border	Interim	Published
PermaNet® 3.0	Combination of deltamethrin coated on polyester with strengthened border (	Interim	Published
Royal Sentry®	Alpha-cypermethrin incorporated into polyethylene	Interim	Published

Yorkool LN®	Deltamethrin coated on polyester	Fully	Published

Notes:

a. Reports of the WHOPES Working Group meetings should be consulted for detailed guidance on use and recommendations. These reports are available at: http://www.who.int/whopes/recommendations/wgm/en/; and

b. WHO recommendations on the use of pesticides in public health are valid ONLY if linked to WHO specifications for their quality control. WHO specifications for public health pesticides are available at: http://www.who.int/whopes/quality/newspecif/en/.

[6] On average 1 bed net per 3 people. Depending on the age/gender distribution, if the information is available, you can use the following criteria, one bed net per each of the following family groups: two parents with their children 0—2 years old; three children 3—10 years old, of both sexes; two children above 11 years or adolescents, of same sex.

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