CONDITION

Leishmaniasis

Leishmaniasis is a parasitic infection spread mainly by sand fly bites that can affect the skin, mucous membranes, or internal organs.

WHAT IT IS
Parasitic infection with skin, mucosal, or internal-organ forms

BODY SYSTEM
Skin, immune system, and internal organs

MAIN SYMPTOMS
Skin sores, fever, weight loss, enlarged spleen

WHAT CAUSES IT
Infection with Leishmania parasites

HOW IT IS DIAGNOSED
Microscopy, parasite culture, molecular testing, or blood tests

MAIN TREATMENT
Antiparasitic medicines or local treatment

CAN IT BE CURED?
Sometimes - treatment clears many cases; relapse can occur

IS IT AN EMERGENCY?
Sometimes - severe bleeding, confusion, or breathing difficulty

LONG-TERM OUTLOOK
Often good treated; visceral infection can be fatal untreated

Overview

Leishmaniasis is an infection caused by Leishmania parasites. It is usually passed to people through the bite of an infected female sand fly. Sand flies are much smaller than common mosquitoes.

The condition occurs in parts of Central and South America, Africa, Asia, the Middle East, and southern Europe. The exact type of parasite and the place where infection occurred help determine its likely course and treatment.

Leishmaniasis has three main forms:

Cutaneous leishmaniasis is the most common form. Some sores eventually heal without medicine, but they can leave scars. Certain parasite species can later cause mucosal

leishmaniasis, even after a skin sore has healed.

Visceral leishmaniasis is the most serious form. Without effective treatment, it can cause severe illness and may be fatal. Prompt assessment matters if you develop persistent fever or other concerning symptoms after living in or visiting an area where leishmaniasis occurs.

- Cutaneous leishmaniasis affects the skin and usually causes one or more sores
- Mucosal leishmaniasis damages moist tissues inside the nose, mouth, or throat
- Visceral leishmaniasis affects internal organs, particularly the spleen, liver, and bone marrow

Symptoms

Symptoms may begin within weeks of infection, but they can also appear months or occasionally years later. Some infected people never develop noticeable symptoms.

Cutaneous leishmaniasis usually starts as a small bump where the sand fly bit. It may slowly enlarge into a sore with raised edges and a sunken centre. The sore is often painless, although a bacterial infection can make it painful.

There may be one sore or many. Nearby lymph nodes may swell. Sores often occur on exposed areas such as the face, arms, or legs.

Mucosal leishmaniasis can cause:

These symptoms may develop months or years after a skin infection. They need medical assessment because ongoing inflammation can damage the nose, mouth, or throat.

Visceral leishmaniasis usually causes a prolonged or recurring fever. Other symptoms can include weight loss, marked tiredness, abdominal swelling, and an enlarged spleen or liver. The spleen sits beneath the ribs on the left and may become large enough to cause fullness or discomfort.

The bone marrow may stop making enough blood cells. This can lead to pale skin, breathlessness, repeated infections, easy bruising, or bleeding.

After treatment for visceral leishmaniasis, some people develop a skin condition called post-kala-azar dermal leishmaniasis. It causes flat or raised patches, often on the face or upper body.

- A blocked or bleeding nose
- Ongoing nasal discharge or crusting

- Sores inside the nose or mouth
- Hoarseness, pain, or difficulty swallowing

Causes and risk factors

Leishmaniasis is caused by several species of Leishmania , a group of single-celled parasites. An infected sand fly can pass the parasite into the skin while feeding.

In some regions, animals such as dogs or rodents carry the parasite. Elsewhere, infected people are an important source for sand flies. Leishmaniasis does not usually spread through everyday contact, coughing, sharing food, or touching a skin sore.

Rare routes include shared needles, blood transfusion, organ transplantation, and transmission during pregnancy. Blood and organ donation services use screening or eligibility rules where these risks are relevant.

Your chance of infection is higher if you live in or travel to an affected area and are exposed to sand flies. The flies are often active from dusk to dawn. They can enter buildings through small gaps, and their bites may not be noticed.

Poor-quality housing, sleeping outdoors, and limited access to insect protection can increase exposure. Malnutrition may raise the risk of developing visceral illness after infection.

A weakened immune system also matters. HIV, medicines that suppress the immune system, and some cancers or transplants can make leishmaniasis more severe, harder to treat, or more likely to return.

Diagnosis

Skin sores have many possible causes, so their appearance alone does not confirm leishmaniasis. Tell the healthcare professional where you have lived or travelled, when you were there, and whether you remember insect bites or earlier skin sores.

For suspected cutaneous or mucosal leishmaniasis, a sample may be taken by scraping the edge of a sore, drawing out a small amount of material, or performing a biopsy. A biopsy removes a small piece of tissue.

The sample can be examined under a microscope, grown in a laboratory, or tested for parasite genetic material using a molecular test such as polymerase chain reaction, or PCR. Identifying the parasite species can help estimate the risk of mucosal complications and guide treatment.

Visceral leishmaniasis may be investigated with blood counts and tests of liver function. These

can show the effects of the infection but do not confirm its cause. Antibody blood tests can support the diagnosis, although they may be less reliable in people with a weakened immune system and can remain positive after an old infection.

Confirmation may require testing blood or tissue from bone marrow, lymph nodes, or another affected organ. These procedures are selected and performed by experienced teams because their risks differ.

Treatment and management

Treatment is chosen according to the form of leishmaniasis, the parasite species, where the infection was acquired, the number and location of sores, and your immune health. Specialist advice from infectious disease, tropical medicine, or dermatology services is often needed.

Some small, uncomplicated skin sores may heal without antiparasitic medicine. However, waiting is not appropriate for every case. Treatment may be advised when sores are large, numerous, slow to heal, located near joints or on cosmetically sensitive areas, or caused by a species linked to mucosal infection.

Local treatments act directly on a skin sore. They may include heat, freezing treatment, or medicine injected or applied at the site. Systemic treatment reaches the whole body and may be given by mouth, injection, or infusion.

Medicines used for some forms include liposomal amphotericin B, miltefosine, pentavalent antimonial medicines, and certain azole medicines. Their effectiveness differs between parasite species and regions. They can also cause significant side effects, so treatment and monitoring must be planned for the individual rather than selected from a general list.

Visceral and mucosal leishmaniasis require systemic treatment. Supportive care may also be needed for anaemia, bleeding, dehydration, poor nutrition, or another infection.

Follow-up checks whether skin sores are closing, internal symptoms are improving, and treatment side effects are controlled. People with HIV or another cause of immune suppression may need longer follow-up because relapse is more common.

Complications

Cutaneous sores can leave permanent scars or changes in skin colour. Bacterial infection of an open sore may cause increasing pain, warmth, swelling, pus, or spreading redness.

Sores near the eyelids, lips, ears, fingers, or joints can affect movement or function. Emotional

effects are also possible when scarring is visible or the condition has caused stigma.

Mucosal leishmaniasis can gradually damage structures in the nose, mouth, and throat. Severe swelling or tissue damage may interfere with speaking, swallowing, or breathing.

Visceral leishmaniasis can cause severe anaemia, low platelet levels, bleeding, and reduced resistance to other infections. Liver and spleen enlargement may become substantial. Untreated visceral infection can be fatal.

Relapse can occur, especially when the immune system remains weakened. A new skin rash after visceral treatment may be post-kala-azar dermal leishmaniasis and should be assessed.

Prevention

There is no widely available vaccine or preventive medicine for travellers. Prevention focuses on avoiding sand fly bites.

Where leishmaniasis occurs:

Sand flies are small enough to pass through some ordinary mosquito nets. Fine mesh is therefore important. Tucking the net under the mattress and checking it for holes can reduce gaps.

Keeping sleeping areas away from animal shelters and organic waste may reduce exposure in some settings. Public health measures may also include insect control, better housing, early case detection, and management of animal reservoirs.

If you have leishmaniasis, ordinary social contact does not place family or friends at risk. Covering active sores in areas with infected sand flies may help prevent flies from feeding on them.

- Use an insect repellent recommended for the destination, following its label
- Wear long sleeves, long trousers, and socks from dusk to dawn
- Sleep in screened or air-conditioned rooms when possible
- Use a fine-mesh insecticide-treated bed net, including around outdoor sleeping areas
- Treat clothing and equipment with an appropriate insecticide as directed

Living with it and what to expect

A cutaneous sore may remain for months before healing. The area can look worse before it starts to close, and a scar or colour change may remain. Healing time cannot be predicted from

appearance alone.

Attend planned follow-up even if a sore seems better. A clinician may need to confirm that healing is progressing and check for treatment effects. New nose, mouth, or throat symptoms should be reported, particularly after infection acquired in Central or South America.

Recovery from visceral leishmaniasis can take time. Fever may improve before energy, appetite, blood counts, and spleen size return toward normal. Follow-up over several months helps identify relapse or post-kala-azar skin changes.

Most people with successfully treated cutaneous infection can return to their usual activities. Those recovering from visceral infection may need a gradual return while weakness and anaemia improve.

Leishmaniasis does not always produce complete immunity. Reinfection with the same or a different parasite species is possible. People with ongoing immune suppression may experience repeated relapses and need longer-term specialist care.

When to get medical help

Arrange a routine medical appointment if you have a skin sore that is not healing and you have lived in or travelled to an area where leishmaniasis occurs. Mention the travel history even if it was months or years ago.

Seek prompt medical assessment for:

Contact the team managing your condition promptly if treatment causes significant vomiting, jaundice, faintness, a new irregular heartbeat, or another worrying reaction.

Seek emergency care for difficulty breathing, confusion, fainting, heavy bleeding, vomiting blood, or black stools. Severe weakness with breathlessness or a very fast heartbeat also needs urgent assessment. These signs do not prove leishmaniasis, but they can indicate a serious complication requiring immediate care.

- Persistent or recurring fever after relevant travel or residence
- Unexplained weight loss, abdominal swelling, or marked tiredness
- New nasal blockage, nosebleeds, mouth sores, or hoarseness after a suspected or confirmed skin infection
- A treated sore that enlarges, reopens, or fails to heal
- New skin patches after treatment for visceral leishmaniasis

Common questions

Is leishmaniasis contagious?

It does not usually pass directly from one person to another. Most infections come from infected sand fly bites. Rare transmission through shared needles, blood, transplanted organs, or pregnancy can occur.

Does leishmaniasis go away on its own?

Some cutaneous sores eventually heal without medicine, but they may take months and leave scars. Certain infections can spread to mucosal tissues or require treatment because of the sore's size, number, or location. Visceral and mucosal forms should not be left untreated.

Can leishmaniasis be completely cured?

Treatment clears many infections, but no single answer applies to every form and parasite species. Relapse is more likely with visceral infection and a weakened immune system. Follow-up is needed before treatment can be considered successful.

How long after a sand fly bite do symptoms appear?

Skin sores may appear within weeks or months. Visceral symptoms can begin months or longer after infection. Mucosal symptoms may occur years after an earlier skin sore.

Will a leishmaniasis scar disappear?

Scars often soften and fade over time but may not disappear completely. Changes in skin colour can also last. Scar care or reconstructive treatment may be considered after the infection has healed.

Can I get leishmaniasis twice?

Yes. Previous infection does not guarantee protection against every Leishmania species. A relapse of the original infection is also possible, particularly if your immune system is weakened.

Sources

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