



An overview on factors associated with leishmaniasis

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DESCRIPTION

A parasitic disease called leishmaniasis is spread by the biting of infected sand flies. Nearly 88 nations contain it, from deserts in the Middle East and West Asia to rain forests in Central and South America. Additionally, Texas and Mexico have had a few cases of the illness. The most prevalent type of the illness, cutaneous leishmaniasis, causes skin lesions, while the more serious visceral leishmaniasis (also known as kala azar), which affects internal organs like spleen, liver, and bone marrow, is more severe. The parasite-carrying sand flies typically live in tropical and subtropical regions. There have been fatal epidemics in South America, East Africa, and parts of Asia.

TYPES OF LEISHMANIASIS

The three types of leishmaniasis are cutaneous, visceral, and mucocutaneous. Each type is linked to a different species of the *Leishmania* parasite. According to experts, about 20 different *Leishmania* species are capable of infecting humans with the disease.

Cutaneous Leishmaniasis

Skin ulcers are mostly caused as a result of cutaneous leishmaniasis. The most prevalent type of leishmaniasis is this one. Depending on the individual, treatment may not always be necessary, but it can hasten healing and avert complications.

Symptoms: Skin ulcers with no pain are the predominant sign of this illness. A few weeks after being bitten by an infected sand fly, skin signs could start to show. Sometimes, though, symptoms won't show up for months or even years.

Diagnosis: Doctor might scrape one of the ulcers to obtain a small sample of skin for a biopsy. They frequently search for the parasite's genetic material, or DNA. To determine what kind of parasite is infecting the patient, they might employ a number of techniques.

Treatment: Cutaneous ulcers frequently cure by itself. Treatment, however, can hasten the healing process, lessen scarring, and cut the risk of developing new symptoms. Plastic surgery could be necessary for any skin sores that leave a disfiguring mark.

Mucocutaneous Leishmaniasis

Mucocutaneous leishmaniasis, an uncommon variation of the illness, is brought on by the cutaneous form of the parasite and can develop months after skin ulcers have healed. The parasites that cause this form of leishmaniasis can invade the mouth, throat, and nose. The mucous membranes in those regions may partially or completely disintegrate as a result of this. Despite being regarded as a subtype of cutaneous leishmaniasis, mucocutaneous leishmaniasis is more severe. It always needs to be treated as it doesn't heal on its own.

Symptoms: Symptoms typically start to show in people with the mucocutaneous type of the disease one to five years after the skin lesions. Most often, these are sores on their lips, nose, or mouth. Other signs may include a stuffy or runny nose, nosebleeds, and breathing difficulties.

Treatment: There is no natural healing process for these lesions. They are always in need of care. Mucocutaneous leishmaniasis can be treated with paromomycin and liposomal amphotericin B.

Visceral Leishmaniasis

Visceral leishmaniasis is also known as systemic leishmaniasis or kala azar. Typically, it happens two to eight months after getting bitten by a sand fly. It harms patient's liver and spleen, among other internal organs. Through these organs, it also affects one's bone marrow and immune system. If untreated, the illness is almost always fatal.

Symptoms: With this kind of leishmaniasis, symptoms frequently don't show up for several months after the bite.

Two to six months after the infection took place, the majority of cases became evident. Weight loss, weakness, prolonged fever, enlarged spleen and liver, decreased formation of blood cells, bleeding, various infections, and swollen lymph nodes are typical signs and symptoms.

Diagnosis: Most of the time, people don't remember getting bitten by a sand fly. This may make it challenging to diagnose the illness. It's beneficial to have experience living in or visiting leishmaniasis-endemic regions. A physical examination by doctor may be the initial step in searching for an enlarged liver or spleen. After that, they might take a blood sample for analysis or do a bone marrow biopsy. Several specialist tests assist in the diagnosis. Immune cells infected with the parasite can be identified using special chemical stains of the bone marrow.

Treatment: Visceral illness always needs to be treated. There are numerous medicines available. Medications that are frequently used include miltefosine, amphotericin B, paromomycin, and sodium stibogluconate (Pentostam) (Impavido).

PREVENTION

As leishmaniasis transmission occurs in a complicated biological system comprising the human or animal reservoir host, parasite, and sandfly vector, prevention and treatment of the disease necessitate a variety of

intervention measures. Here are some important preventative tactics:

Early detection and efficient treatment lower the prevalence of illness and helps to avoid disability and death. As well as monitoring the prevalence and burden of disease, it aids in reducing transmission. Although they can be challenging to use, there are currently extremely effective and safe anti-leishmanial medications, especially for visceral leishmaniasis. Thanks to a WHO-negotiated price plan and a drug donation programme, because of which access to medications has considerably improved.

By reducing the number of sandflies, vector controlling aids in slowing down or stopping the spread of disease. Spraying insecticide, using nets treated with insecticide, managing the environment, and using personal protection are all examples of control strategies. To quickly monitor and take action during epidemics and circumstances with high case fatality rates while being treated, effective disease surveillance is essential.

Animal reservoir hosts are difficult to control and need to be handled locally. Social mobilisation and the bolstering of associates local adaptation is essential for effective behavioural change efforts that involve community mobilisation and education. Collaboration and partnerships with other vector-borne illness management programmes and other stakeholders are essential.