Editorial

Leishmaniasis - an Impending Epidemic

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The history of leishmaniasis can be traced as far back as 650 BC, and possibly much earlier in the Tigris/Euphratus basin. Representation of skin lesions and facial deformities are found in the pre-Inca pottery, from Peru and Ecuador dating back to the 1st century. It was described by Avicenna in the 10th century AD, and well known in Aleppo and Baghdad by the 18th century AD.[1] Leishmaniasis today is found in about 88 countries, mostly from the under-developed ones. About 12 million cases of leishmaniasis exist worldwide. An estimated 1.5-2 million new cases occur annually: Of these, there are about 1-1.5 million cases of cutaneous leishmaniasis and 500,000 cases of visceral leishmaniasis.[2,3] What should be done for this up rise?

Leishmaniasis is a vector borne parasitic disease caused by several species of the parasite of genus leishmania; different species cause infection in the skin, mucous membrane and viscera (Kala-azar). Each species has a particular geographical distribution, they are morphologically identical, but can be differentiated by iso-enzyme pattern, DNA analysis and monoclonal antibodies.[4]

The parasite can exist in two forms. The amastigotes (Leishmania Donovan bodies) are found in man, the other reservoirs of infection are the dogs, gerbils and rats. The flagellate form, the promastigotes are found in the insect vector (sand fly), or on artificial media. Man is infected by the bite of an infected sand fly.[3,4]

The cutaneous form although not fatal can cause ugly scars at the site of infection, these typically evolve from papule to nodule to ulcerated plaques. These scars are a cause of great psychological trauma to the patient. The visceral form (Kala-azar), can be fatal if not treated in time. Manifestations of advance kala-azar are fever, cachexia, hepatosplenomegaly, pancytopenia and hyperglobinemia. The mucocutaneous form affects the skin and mucous membrane of the upper respiratory tract. It can cause considerable destruction of the nose, upper lip and palate.[3] Leishmaniasis is treated by pentavalent antimony compound, sodium stibogluconate.

Cases of leishmaniasis are restricted to areas where the sand fly (vector for leishmaniasis) exists. Leishmaniasis is linked with poor socio-economic conditions, where there is lack of sanitation and improper waste disposal.[5] Heaped up waste is a breeding place for sand flies. The habit of keeping domestic animals in rural areas provides an abundance of blood meal for the sand fly vector; this raises the vector population densities drastically.

In Pakistan, we see new cases reported every now and then. Recently there has been an influx of refugees from Afghanistan. Kabul is the largest centre of cutaneous leishmaniasis.[6] Both Baluchistan and Frontier province of Pakistan have borders connected with Afghanistan; we should prevent this influx of refugees. In Sindh: Dadu, Jacobabad and Larkana have been isolated as the high-risk districts.

We have not been able to check the spread of leishmaniasis; there are no FDA-approved vaccines or prophylactic medications. People should be taught to dispose waste hygienically, spray insecticides at breeding areas, and sleep with insecticide impregnated bed nets, as the sand fly is nocturnal in habit. These nets should be fine as the size of a sand fly is about 1/3 that of a mosquito. Pets should have pyrethroid-impregnated collars, or infected rodents should be eliminated. People should wear protective clothing and apply insect repellents to exposed areas of the body.[5]

We need a social and political commitment. We need funds to provide adequate sanitary and satisfying housing conditions. Vector control is not sustainable due to logistic constraint and high cost. Treatment is also expensive and patient compliance poor. There is lack of well-trained personnel and weak delivery system.

The World Health Organization in collaboration with the ministry of health has recently started a survey launching a programme to control leishmaniasis in the country. Let us hope that the political and financial commitment of the programme is implemented and does not fizzle out.

References

1. Herwaldt BL. Leishmaniasis. Lancet 1999;354:1191-9.
2. Ashford RW, Kohestany KA, Karimzad MA. Cutaneous leishmaniasis in Kabul: observations on a prolonged epidemic. Ann Trop Med Parasitol 1992;86:361-71.
3. Desjeux P. Leishmaniasis: public aspects and control. Clin Dermatol 1996;14:417-23.
4. Bryceson ADM and Hay RJ. Parasitic worms and protozoa. In Rook/Wilkonsin/Ebling. Textbook of Dermatology. Edited by Champion RH, Burton JL, Burns DA and Breathnach SM. Blackwell Science Publication. Volume 2. 6th Edition. 1998. Chapter 32;1410-22.
5. Noble ER, Nable GA, Schad GA, Macinnes AJ. In Parasitology - The History of Animal Parasites. Introduction to the protozoan group; Phylum zoomastigina. Sand fly. Lea and Febiger Publication. 6th Edition. 1989, pp. 401-402.
6. Desjeux P. Leishmaniasis: current situation and new perspectives. Comparative Immunology, Microbiology and Infectious diseases. 2004;27:305-18.