

# A SURVEY OF CUTANEOUS LEISHMANIASIS AT VILLAGE GAIBI DERO, DISTRICT LARKANA, SINDH, PAKISTAN

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## ABSTRACT

**Background:** In Pakistan cutaneous leishmaniasis occurs sporadically throughout the year and various outbreaks are reported frequently. The disease, once endemic in Baluchistan, has become highly prevalent in Sindh, North West Frontier Province and parts of Punjab. The present survey was conducted after the outbreaks of cutaneous leishmaniasis in the mountainous belt of upper Sindh.

**Material & Methods:** This survey of cutaneous leishmaniasis was carried out in mid January 2003 at village Gaibi Dero, Larkana District, adjoining the Baluchistan province.

**Results:** A total of 500 people were examined out of which 200 were found to be suffering from cutaneous leishmaniasis. The patients appeared with various cutaneous manifestations such as papules, nodules, ulcers and erythematous plaques. The present outbreak of cutaneous leishmaniasis may be due to migration of people from the endemic areas of Balochistan to the adjoining areas of upper Sindh.

**Conclusion:** Cutaneous leishmaniasis is endemic and increasing in upper and other parts of Sindh province. This requires attention of health authorities to take appropriate measures for its effective control.

**Key words:** Cutaneous leishmaniasis, Leishmaniasis, Sand fly.

## INTRODUCTION

Cutaneous leishmaniasis is a parasitic disease, popularly referred by the regional or local names, such as Aleppo boil, Baghdad boil, Delhi boil, Oriental sore, Kandhar sore and Lahore sore. It is the result of infection with intracellular protozoan parasite belonging to the genus *Leishmania*. There are 4 main clinical types of leishmaniasis: cutaneous leishmaniasis (CL), diffuse cutaneous leishmaniasis, mucocutaneous leishmaniasis and visceral leishmaniasis.

The prevalence of various types of leishmaniasis worldwide is more than 12 million cases.<sup>1</sup> Movement of immigrants into the endemic areas, increase in tourism, decrease in the use of insecticides have all contributed to increase in the number of leishmaniasis cases; estimated numbers will exceed 500,000 new cases annually, only in visceral leishmaniasis.<sup>2,3</sup>

These parasites are transmitted by phlebotomine sand flies of genus *Phlebotomus* in the Old World and *Lutzomyia* in the New World. Sand flies are widely distributed in tropics and

subtropics especially in deserts, rain forests and highlands. Only the females are hematophagous (blood sucking). When a female sandfly bites a mammalian host, it takes up the amastigote form of parasites from the infected host/reservoir. Within the gut of sandfly, the parasites transform to the promastigote form and then the freely motile, differentiating metacyclics accumulate just behind the stomodeal valve, where they remain until they are inoculated into a new mammalian host during a subsequent blood meal.

The lesions are either solitary or multiple and occur on exposed areas of the body which are easily accessible to the sandfly. The lesions can be papules, nodules, ulcers or plaques.

CL has now become endemic in over 70 countries of the world with the incidence of 1,500,000 cases/year.<sup>1</sup> New cases of CL from non-endemic regions have been reported.<sup>4</sup> It is generally due to migration and traveling of people and also due to changes in the ecological equilibrium.

In Pakistan CL occurs sporadically throughout the year and various outbreaks are reported

frequently. In the last decade, the incidence of CL in Pakistan has increased to an alarming extent.<sup>5</sup> The disease, once endemic in Baluchistan, has become highly prevalent in Sindh province, North West Frontier Province and parts of Punjab.

The present survey was conducted after the outbreak of CL in an area of Kacho, a mountainous belt of upper Sindh province, adjoining the Baluchistan province.

## **MATERIAL AND METHODS**

This survey was conducted at village Gaibi Dero located in Kacho, Larkana district, Sindh, Pakistan. (Figure-1) The village is situated 75 km towards west from Larkana town with a population of around 800 persons. Larkana district covers an area of 7432 km<sup>2</sup>. The population of the district is 2.1 million. Main crops are rice, sugar

cane, wheat and guavas. The climate of the region is subtropical; temperature remains hot (33-48°C) in summer and moderate (11-21°C) in winter.

The diagnosis was made by clinical observations, and identification of Leishman Donovan (LD) bodies on skin smears after staining with Giemsa or Leishman stain. The cultures were performed in selected cases.

## **RESULTS**

A total of 500 patients with suspected skin lesions were examined and 200 found to be suffering from CL. (Figure-2).

The age distribution of infected persons is given in Tables-1, showing maximum incidence at the age group 21-30 years.

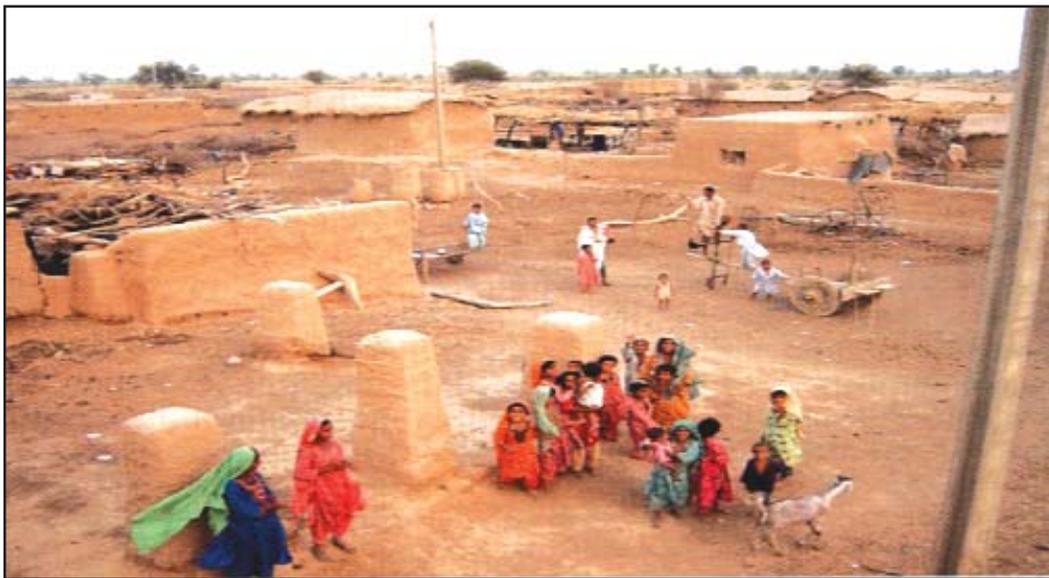


Fig. 1: Human dwellings and inhabitants at the study site, Gaibi Dero, Larkana, Sindh.



Fig. 2: Typical lesion of cutaneous leishmaniasis on the nose of 28 years old lady.

**Table 1: Cutaneous leishmaniasis cases arranged by age groups.**

Age Groups (years)	Number of Patients	Percentage
0-10	10	5
11-20	15	7.5
21-30	80	40
31-40	70	35
41-50	25	12.5

**DISCUSSION**

Cutaneous leishmaniasis causes a public health problem in several countries. Its prevalence tends to be grossly under-estimated because of under-reporting, misdiagnosis or non-diagnosis. In Pakistan it occurs sporadically throughout the year but for the last decade it showed extension in its geographical distribution. The disease once endemic in Baluchistan has become considerably prevalent in Sindh, NWFP and parts of Punjab as reported by Burney and Lari,<sup>6</sup> Rowland et al.,<sup>7</sup> Bhutto et al.<sup>5</sup>

Several interlinking factors affect the prevalence and distribution of CL such as the state of immunity of infected humans and changes in the population of reservoir and vector due to changes in the environment. The climatic fluctuations affect the population of sandflies and reservoir hosts. The unusual weather may also cause a shift in the factors affecting transmission thus resulting in outbreaks of the disease. The migration and movement of people from endemic to non-endemic areas also increases the risk of infection because of ecological and environmental changes.<sup>2</sup>

The present survey revealed that outbreak of CL may have occurred due to migration and movement of drought-affected people from the endemic areas of Baluchistan province to the adjoining areas of Sindh province. The environmental changes due to the drought may have increased the activity of sandflies. The present survey is an indication that CL is not uncommon in the area of upper Sindh.

**CONCLUSION**

Cutaneous leishmaniasis is endemic and increasing in the upper and other parts of Sindh province.

This requires attention of health authorities to take appropriate measures for effective control, failing which it may create more severe public health problem.

Further detailed epidemiological survey on a large scale is required to know the exact prevalence of CL in and around Sindh province.

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