

## NEW FOCUS OF CUTANEOUS LEISHMANIASIS IN INDIA : PRELIMINARY REPORT

D Bora\*, A K Khera\*, Veena Mittal\*\*, S M Kaul\*, R S Sharma\*\*\*

An epidemiological investigation was carried out in hilly areas of western ghats of Kerala state, India during 1993, to verify a focus of cutaneous leishmaniasis. Out of 406 surveyed population, 11 cases were detected, among which two were positive for LD bodies in slit skin scraping examination. The disease was indigenously transmitted. Further investigation is advocated to identify leishmania species, vector and the reservoir.

**Key Words : Cutaneous leishmaniasis, India**

### Introduction

Cutaneous leishmaniasis (CL) was not reported from Kerala State, India before 1988, when two imported cases<sup>1</sup> were reported for the first time. The first indigenous case<sup>2</sup> from Malappuram district was reported after another two years. A survey<sup>3</sup> conducted by National Institute of Communicable Diseases, Delhi (NICD) during 1992 also indicated presence of CL in the area (NICD, 1992). Cases of similar nature were also reported from few other villages of the same area by local practitioners. Prompted by the information, an epidemiological investigation was carried out during April 1993 to examine the existence of indigenous CL there and establish its transmission chain.

### Materials and Methods

The study was conducted in six villages of Nilumber subdivision, district Malappuram, from where these suspected cases were reported. The area is densely forested with heavy rainfall almost throughout the year except January to April and pockets of small tribal villages are few and far between. The main occupations are wood cutting,

collection of honey, rubber, incendiaries and small farming which necessitates frequent visit to the forest. Besides pet animals like dog and cow, wild rodents are plenty in the area.

A house to house survey was conducted in six villages. 61.8% of total households were contacted during the survey. A case of CL was defined through exclusion, as a skin lesion that did not conform any other diagnosis. Such cases were screened out and details noted in a predesigned proforma. Information on age, sex of the case, duration, type, site, nature of the lesion, treatment taken and history of movement during last one year were also collected. Slit skin smears from the edge of the lesion were collected from all cases for laboratory diagnosis. An entomological survey in the same villages was also conducted simultaneously.

### Results

A total of 406 people were surveyed and 11 cases were detected. The prevalence was found to be 2.7%. Out of 11 cases, 3 were males and 8 females. Most of the cases (72.7%) were aged between 20-40 years and none gave history of outside movement in past one year. The lesions were small (0.5x0.5 cm or less), painless, non-ulcerative, nodular type on the exposed parts of the body. The duration of the lesions in most cases was from 7 months to 2 years (Table I).

From Division of Epidemiology\*, Division of Zoonosis\*\*, National Institute of Communicable Diseases, 22-Sham Nath Marg, Delhi-110054, India.

Address correspondence to : Dr D Bora

**Table I.** Details of eleven CL cases detected during investigation in Malappuram, Kerala

Age (years) and sex	Bite of lesion	Type and nature of the lesion**	Duration of the lesion
23, F	Rt. elbow	Nodular, Painless	*
20, F	Rt. leg	Nodular, Painless	*
35, M	Face	Nodular, Painless	2 years
20, F	Lt. arm	Nodular, Painless	*
12, F	Rt. arm	Raised margin, Painless	7 months
40, F	Lt. elbow	Raised margin, Painless	1 year
<u>28, M</u>	<u>Face</u>	<u>Nodular, Painless</u>	<u>2 years</u>
14, F	Rt. ear	Nodular, Painless	1 year
19, F	Back	Nodulo vesicular, Painless	*
20, M	Face	Nodulo vesicular, Painless	9 months
<u>25, F</u>	<u>Rt. axilla</u>	<u>Nodulo vesicular, Painless</u>	<u>6 months</u>

\* Could not be ascertained.

\*\* All lesions were non-ulcerative.

LD body positive cases are shown underlined.

At NICD laboratory, LD bodies were demonstrated in two (18.7%) skin scrapings. Entomological survey identified mainly *Ph argentipes*, *Sergentomyia babu*, and *S baily* as the major fauna. Eight other sandfly species were also collected. But, no promastigote form of leishmania was isolated in sandflies dissected.

## Discussion

Prevalence of CL was found to be 2.7% in the present study. Other workers reported 5.08%<sup>4</sup> and 0.18%.<sup>5</sup> As many males were away during the time of investigation, an apparent preponderance of female was observed. The lesions found in this survey were not typical of CL but such atypical lesions have been reported from elsewhere.<sup>6</sup>

Identification of the parasite could not be done. However, LD bodies have been demonstrated from the area in the past<sup>2,3</sup> as well as the present survey confirmed a focus of CL in the area. None of the cases had gone beyond the subdivisional head quarter town about 20-30 km away, suggesting a

strong possibility of indigenous transmission. Indigenous focus of CL in similar environment was also reported by other workers.<sup>7</sup>

In India CL have been reported only from dry north-western part of the country.<sup>8</sup> As such, the new focus will have considerable public health interest. The present study only highlights the focus of CL in the area. Further investigation is thus required to identify the leishmania species, reservoir and the vector concerned.

## Acknowledgements

The authors are extremely thankful to Director Health Services, Kerala, Chief Medical Officer and Medical Officers, district Malappuram for their whole hearted cooperation during the investigation. Thanks are also due to Dr K P Rajendran, Medical Officer, Nilumber, Kerala for his help during the investigation. The authors are grateful to Dr J Bhattacharjee, Chief Medical Officer, NICD for his comments.

## References

1. Lohidakshan MU, Shanmugham Pillai SM, Vijayadharan M, Sarojini PA. Two cases of cutaneous leishmaniasis in Trivandrum. Ind J Dermatol Venereol Leprol 1988; 54: 161-2.
  2. Muhammed K, Narayani K, Aravindam KP. Indigenous cutaneous leishmaniasis. Ind J Dermatol Venereol Leprol 1990; 56: 228-9.
  3. National Institute of Communicable Diseases (NICD), Delhi (1992). Unpublished data.
  4. Ashford RW, Rioux JA, Jalouk Lama, Khiami Aide, et al. Evidence for a long-term increase of *Leishmania tropica* in Aleppo, Syria. Trans R Soc Med Hyg 1993; 87: 247-9.
  5. Sharma MID, Suri JC, Kalra NL, Krishna Mohan, et al. Epidemiological and entomological features of an outbreak of cutaneous leishmaniasis in Bikaner, Rajasthan. J Com Dis 1973; 5: 54-72.
  6. Ponce C, Ponce, Morrison A, Cruz A, et al. *Leishmania donovani chagasi*: New clinical variant of cutaneous leishmaniasis in Honduras. Lancet 1991; 337: 67-70.
  7. Athukorale DN, Senaviratne JKK, Ithalamulla RL, Premaratne VN. Locally acquired cutaneous leishmaniasis in Sri Lanka. J Trop Med Hyg 1992; 95: 432-3.
  8. World Health Organisation. Geneva. Control of the leishmaniases. Technical Report Series No 793, 1990.
-