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Original Article

Kashmor: focus of cutaneous leishmaniasis

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Abstract ***Background*** Cutaneous leishmaniasis (CL) is a protozoal infection, endemic in many areas of Pakistan.

Objective To document a new focus of CL and its clinical patterns in the District Kashmor in the Sindh province.

Patients and methods CL patients from District Kashmor (Province Sindh) presenting to the Outpatient Department of Dermatology, Mayo Hospital, Lahore, during a 5 months period, were included in the study. The patients were diagnosed clinically and confirmed by demonstration of amastigote form of leishmania in a Giemsa-stained smear prepared from the lesions.

Results Out of 300 patients enrolled, who had an average three months stay in District Kashmor, 55% had rural and 45% had urban leishmaniasis. The diagnosis of subtypes was based on history and clinical examination. Hundred patients had only one lesion, 121 patients had two lesions whereas rest of the patients had more than two lesions. The mean number of lesions was two with 75% involving legs and feet followed by 15% over the upper limbs, 5% involving trunk and 5% over face and neck.

Conclusion Cutaneous leishmaniasis is endemic in District Kashmor with predominance of rural followed by urban leishmaniasis and majority of patients have involvement of legs and feet.

Key words
Kashmor, *Leishmania*, amastigote.

Introduction

Cutaneous leishmaniasis (CL) is a protozoal disease caused by an organism belonging to the genus *Leishmania* transmitted by sandflies (*Phlebotomus*, *Lutzomyia* and *Psychodopygus*) affecting up to 12 million people in the continents including Asia, Europe, Africa and America.[1] In Pakistan, the disease was mainly found in the Balochistan province but cases have been reported from various parts of Sindh, Multan, Azad Kashmir and North-West Frontier Province especially the Kohat District.[2] The spectrum of this disease ranges from a relatively benign, self-resolving cutaneous form to a potentially fatal systemic illness. The incidence of leishmaniasis is rising because of increased tourism and human alteration of the vector habitat.[1] It is also increasing partly because of factors increasing the pathogenicity or transmission of the disease, such as HIV co-infection or malnutrition.[1,3]

The different clinical varieties of leishmaniasis constitute severe public health problems.[4] Lesions usually occur on

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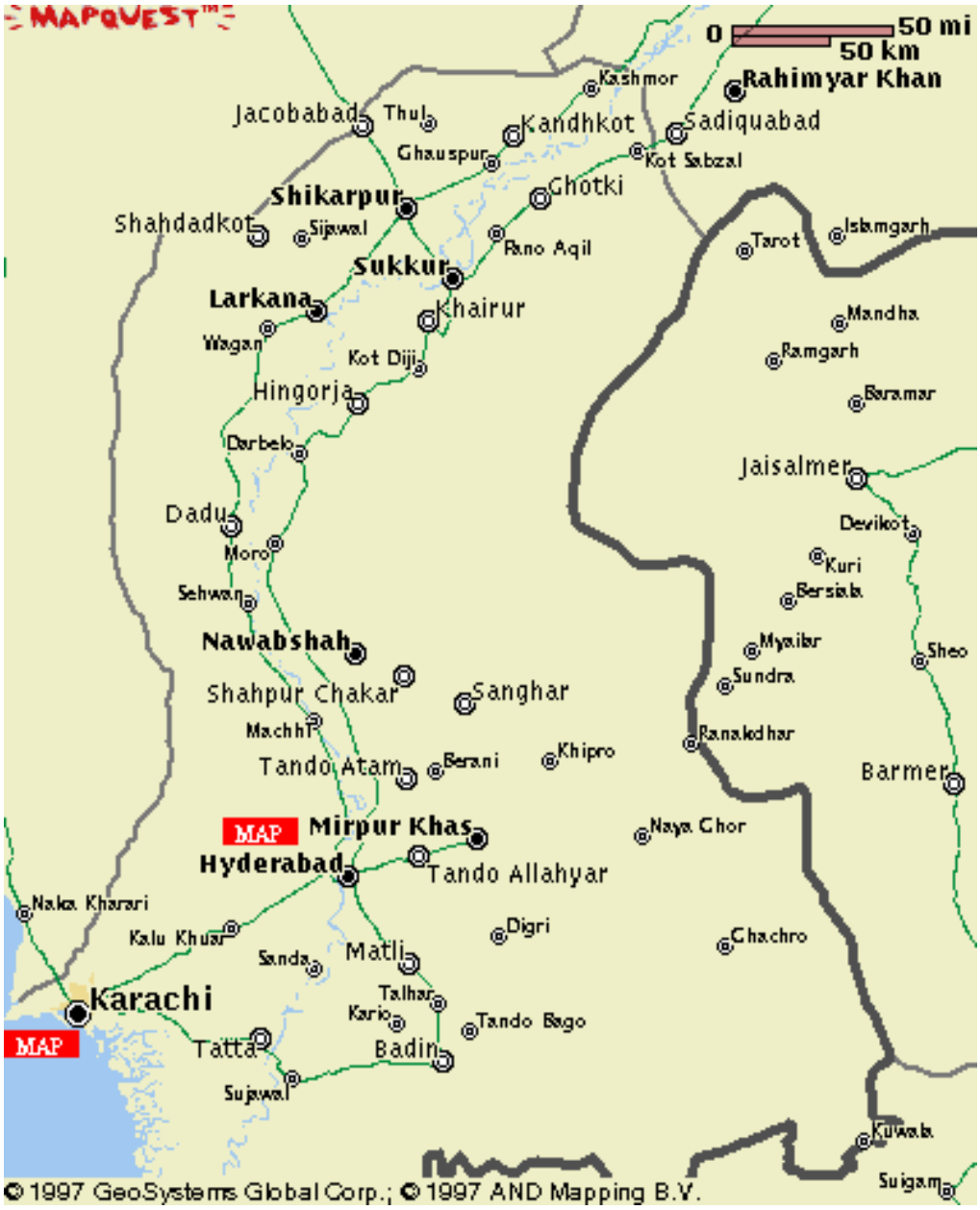

Figure 1 The geographical location of Kashmor.

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uncovered parts of the body starting from nodule or plaque and passes through the stages of crust, ulcer and scar formation.[5] Visceral leishmaniasis is usually fatal when untreated while mucocutaneous leishmaniasis is a mutilating disease. The diffuse cutaneous leishmaniasis is also a disabling disease.[5,6]

CL is endemic in many areas of Pakistan.[7] Suddenly, a large number of patients, from district Kashmor, started visiting our outpatient's department daily. Kashmor is located at the junction of three provinces i.e. Punjab, Sindh and Balochistan at longitude 69º and latitude 28º (**Figure 1**). So, the present study was planned to document the endemicity of CL in District Kashmor of

Province Sindh and to determine the clinical patterns of the disease in that area.

Patients and methods

It was a descriptional and non-analytical study. CL patients from District Kashmor presenting to the Outpatient, Department of Dermatology, Unit-1, King Edward Medical University/ Mayo Hospital, Lahore from 1st December, 2004 to 30th April, 2005 were included in the study. All these patients were deployed in that district as part of the law enforcing force of Pakistan Rangers. They neither belonged to any known endemic area of CL nor did they visit any such area in the last two years.

The total number of patients was 300. The patients were diagnosed clinically and confirmed by demonstration of amastigote forms of leishmania in a Giemsa stained smear, prepared from the lesions. The diagnosis of subtypes was based on history and clinical examination.

All the relevant details regarding history, clinical examination including various clinical parameters i.e. papule, nodule, plaque & ulcer and the site of involvement were recorded on a pre-designed pro forma. Multiple infection sites were graded independently. The patients were followed up and on each visit, a clinical assessment was made.

Results

A total of 300 patients who had an average three months stay in District Kashmor, were enrolled during the five months period in this study. They were all males. The ages ranged from 18-46 years. The duration of lesions ranged from 3 weeks to 8 months. Out of 300 patients, fifty five percent had rural and forty five percent had urban leishmaniasis. Clinically, the lesions ranged from erythematous papules, nodules, plaques, ulcerated nodules and plaques. Seventy five percent of the patients had lesions on the legs and feet followed by fifteen percent over the upper limbs, five percent on the trunk and five percent over the face and neck (**Table 1**).

Table1 Anatomical distribution of lesions (n=600)

Site	*n (%)*
Feet & legs	450 (75)
Hands & forearm	90 (15)
Face & neck	30 (5)
Trunk	30 (5)

Table 2 Frequency of number of lesions per patient (n = 300).

Number of lesions	*n (%)*
One	100 (33.33)
Two	121 (40.33)
Three	65 (21.67)
Four	9 (3)
Five	3 (1)
Six	2 (0.67)

The total number of lesions in all the enrolled patients was 600 while the mean number was two. One hundred patients had only one lesion, 121 patients had two lesions whereas rest of the patients had more than two lesions (**Table 2**).

The patients were treated with injectable meglumine antimoniate daily and a good response was noted on follow-up visits.

Discussion

Leishmaniasis is a worldwide disease.[1,4,7] The World Health Organization (WHO) estimates approximately 1 to 2 million new cases of leishmaniasis each year, all over the

world.[1,8] Twenty *Leishmania* species are pathogenic for humans and 30 sandfly species are proven vectors.[4] There are two main epidemiological entities[4]; zoonotic: where animal reservoir hosts are involved in the transmission cycle and Anthroponotic: where man is the sole reservoir and only source of infection for the vector.[3,4,5] The main control strategy is case finding and treatment plus, when feasible, vector control and in zoonotic foci, animal reservoir control.[4]

The disease is endemic in various areas of all the four provinces of Pakistan. The District Kashmor is located in Sindh Province and the disease has never been reported before from this area to our unit. A large number of patients suffering from this disease in that particular area, shows the magnitude of the problem. The present study revealed persistence of active cutaneous leishmaniasis, throughout the whole year, in that district. A few patients with lesions of 8 months duration along with Leishman-Donovan bodies positivity for 4 to 5 months duration also point towards the endemicity of cutaneous leishmaniasis in Kashmor district. Out of 300 patients, in 55% the evolution of disease and clinical presentation was suggestive of rural variety whereas urban type was suspected in 45% of patients.

To attain more knowledge and to elucidate the awareness of this morbid problem, a need for cross-sectional study in Kashmor is required. Moreover, further research work is needed for preventive measures and to eliminate this problem from our part of the world.

Conclusion

Cutaneous leishmaniasis is endemic in the District Kashmor with predominance of rural followed by urban leishmaniasis and majority have involvement of legs and feet.

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