ORIGINAL ARTICLE

FREQUENCY OF CUTANEOUS LEISHMANIASIS IN AN AFGHAN REFUGEE CAMP AT PESHAWAR

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ABSTRACT

Background: Cutaneous Leishmaniasis is common in children and young adults. Although it does not cause death but produces disfiguring of skin. Objective of this study was to assess the prevalence of Leishmaniasis in Bhagbanan Refugees Camp in District Peshawar.

Material & Methods: This descriptive cross-sectional study was conducted in Bhagbanan refugee camp, Peshawar, from November 2006 to January 2007. Sample size was 505, comprising of 229 Afghan refugees and 276 local people, examined for Cutaneous Leishmaniasis.

Results: Out of 229 Afghan refugees 19 (8.29%) and out of 276 local people, 16 (5.79%) were found positive for Cutaneous Leishmaniasis. Statistical analysis revealed no significant difference in the leishmanial infection among Afghan refugees and local population. Data for age wise prevalence of Leishmaniasis showed a high prevalence 10.96% among age group 0-9 years. This was followed by 6.66% in the age group 10-19 years. Slightly higher infection rate was found on face, but the difference between the lesions on the face and extremities was statistically non-significant. Regarding the number of lesions, single lesion was observed in the majority of subjects (9.50%) while 5.62% had 2-3 lesions, 5% had 4-5 lesions and 4% had more than 5 lesions.

Conclusion: Leishmaniasis has attained epidemic proportion in Khyber Pukhtoon Khwa. There is a need to make aware the general public about using bed nets, repellents and cleanliness. Government should provide medical facilities.

Key words: Cutaneous Leishmaniasis, Afghan refugee, Peshawar.

INTRODUCTION

Leishmaniasis is caused by a parasite transmitted by the sandfly bite. The cases can be divided into urban and rural. The most common type in Pakistan is urban or anthroponotic Leishmaniasis. The disease is transmitted from human to human, but rural or zoonotic Leishmaniasis comes from the interaction of man with animals. The cutaneous variety can present in various unusual clinical variants that can be difficult to diagnose.[1, 2]

Cutaneous Leishmaniasis is mainly determined by geographic distribution of the sandfly vectors (*Phlebotomus* sp. and *Lutzomyia* sp.). They live in dark, damp places and do not fly high or far. Once a sandfly is infected, it can transmit the parasite to both humans and animals for the rest of its life.[3, 4]

They fly silently and due to their small size (2-3 mm), penetrate through mosquito nets. They are most active in the evening and at night. In endemic areas, up to 9 percent of the healthy population may have a positive Leishmanin skin test, indicative of a previous, often asymptomatic infection. In India and Pakistan simple Cutaneous Leishmaniasis is usually caused by *Leishmania tropica*, and man is the most common reservoir.[5]

Globally about 1.5 million cases of Cutaneous Leishmaniasis occur each year, with the bulk reported from Afghanistan, Iran and Pakistan. According to the World Health Organization (WHO), Leishmaniasis is endemic in 88 countries. It is prevalent in all the provinces of Pakistan. It is endemic in Baluchistan, Sindh, and Multan.[6-9]

Leishmaniasis has also been reported in Pakistanis working in other countries.[10] In Pakistan the disease has been described in its classic form but some rare manifestations have also been reported like acute paronychial, chancriform, annular, palmoplantar and zosteriform forms.[11-13]

The WHO along with local health authorities in the Northwest Frontier Province of Pakistan is working to control the outbreak. A total of 738

cases, mostly in children under age 15, have been reported from Kurram agency in addition to 1,500 cases in Afghan refugee camps.[14, 15]

The objectives of the study were to determine the prevalence of cutaneous leishmaniasis in Baghbanan refugee camp Peshawar and to assess its pattern in local as well as Afghan people.

MATERIAL AND METHODS

This was descriptive cross-sectional study and conducted in Baghbanan Afghan Refugee Camp Peshawar, Pakistan, from November 2006 to January 2007. Total population of the camp including adjacent local population is 22,000. Sample size was 505 subjects including 229 Afghan refugees and 276 local populations. Data collection was done through a structured questionnaire.

We Included all either confirmed or suspected cases residing in Baghbanan camp and local areas adjacent to Baghbanan Camp irrespective of age and sex.

Clean glass slides were used for making blood films, which were prepared as follows. Representative skin lesions were cleaned with 70% methylated alcohol. From the ulcerating skin lesion exudate was collected through a puncture made at the raised margin of lesion with the help of sterile blood lancet. The exudate was placed at one end of a clean slide. This was smeared by slide to slide method. Smears were then air dried and fixed in 100% methyl alcohol for 2-3 minutes.

RESULTS

Out of 505 people, 35 (6.93%) were found having Cutaneous Leishmaniasis. The Afghan refugees' data comprised of 229 people, out of which 19 were found positive for Cutaneous Leishmaniasis with 8.29% prevalence. The local population comprised of 276 cases, out of which 16 were found positive with 5.79% prevalence.

Data for age wise prevalence of Leishmaniasis is shown in Table 1. There is high prevalence of Leishmaniasis (10.96%) among age group 0-9 years. The high prevalence rate was followed by 6.66% (10-19 years), 5.35% (30-39 years), 5.12% (40-49 years), 3.96% (20-29 years) and lowest prevalence rate 2.94% was observed in age group 50-59 years.

Table 2 indicates that slightly higher infection rate was found on face, but the difference between the lesions on the face and extremities was statistically non-significant.

Table 3 shows the number of leishmanial lesions. It is clear from the table that a single lesion was observed in the majority of subjects (9.50%) while 5.62% had 2-3 lesions, 5% had 4-5 lesions and 4% more than 5 lesions.

Out of 35 positive cases 8.29% belonged to Afghan refugees while 5.79% were from the local population. This shows that Leishmaniasis is more prevalent among Afghan refugees. According to Chi square statistical analysis it can be concluded that there was no significant difference in leishmanial infection in local population and Afghan refugees (Table 4).

Table 1: Prevalence of leishmaniasis by age.

Age (years)	Subjects examined	Positive cases	Percentage
0-9	155	17	10.96%
10-19	120	5	6.66%
20-29	101	4	3.96%
30-39	56	3	5.5%
40-49	39	2	5.12%
50-59	34	1	2.94%
Total	505	35	6.93%

Table 2: Prevalence of leishmaniasis by site.

Site	Subjects examined	Positive cases	Percentage
Face	196	16	8.16%
Hand	117	7	5.98%
Foot	96	5	5.20%
Mixed	96	7	7.29%
Total	505	35	6.93%

Table 3: Number of lesions recorded.

Number of lesions	Subjects examined	Positive cases	Percentage
1	200	19	9.50%
2-3	160	9	5.62%
4-5	120	6	5.00%
5-6	25	1	4.00%
>5	505	35	6.93%

Table 4: Comparison of Leishmaniasis in Afghan refugees and local population.

Subjects	Subjects examined	Positive cases	Percentage
Afghan refugees	229	19	8.29%
Local population	276	16	5.79%
Total	505	35	6.93%

DISCUSSION

Table 2 indicates a higher of infection on the face; similar findings were recorded by Rab et al[4] where majority of lesions were found on the face. However, Noyes et al[3] and Rajpar et al[5] observed the majority of lesions on the extremities.

The observed lesions of Cutaneous Leishmaniasis on face and extremities in the present study may be explained by sleeping habits of the people in this area. Majority of people in this area prefer to sleep out-doors, so their face, hands as well as limbs are exposed to sand fly bites at night.

Table 3 shows the number of leishmanial lesions. A single lesion was observed in the majority of subjects 9.50% while 5.62% had 2-3 lesions, 5% had 4-5 lesions and 4% had more than 5 lesions.

Table 4 shows that out of 35 positive cases 8.29% were Afghan refugees while 5.79% were from the local population. This shows that Leishmaniasis is more prevalent among Afghan refugees. Although this difference was statistically non-significant.

CONCLUSION

Cutaneous leishmaniasis has attained epidemic proportion in Khyber Pukhtoon Khwa province. Younger age group is the most affected. There is statistically non-significant difference in the prevalence among Afghan refugees and local population.

Keeping in view the sudden resurgence of disease, there is a need to keep the general public aware about the life cycle and control of the disease. Government should provide medical facilities to the people as majority of the people in the area are poor. Sanitary system in the area should be improved. Outdoor sleepers must be educated to use mosquito nets or repellants.

As the present study was confined to a limited area, there is need to conduct a study on large scale keeping in view the public health importance of the disease.

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