ORIGINAL ARTICLE

Frequency of Distribution of Leishmaniasis in School going children of Quetta

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ABSTRACT

Aim: To assess the frequency distribution of Leishmaniasis in school going children
Study design: Observational descriptive study
Methods: This study was a hospital based descriptive study conducted at dermatological clinic of Bolan Medical Complex Hospital, Quetta in which 200 school going children 6-14yrs old were participated in the study and data were collected during the month of May 2013.
Results: Out of 200 children, 122(61%) were males while 78(39%) were female. The most common form of Leishmanisis was cutaneous Leishmaniasis 167(83.5%) and 2nd common form was Muco-cutaneous 33(16.5%) with presenting illness of fever 161(80.5%) and pallor 116(58%) respectively.
Conclusion: The cutaneous Leishmaniasis is most common in school going children especially in males. There is a need to make aware the general public about using bed nets, repellents and cleanliness. Government should provide medical facilities.
Keywords: Leisthmaniasis, school going children,

INTRODUCTION

Leishmaniasis, a vector-borne disease that is caused by obligate intra-macrophage protozoa, is endemic in large areas of the tropics, subtropics and the Mediterranean basin. This disease is characterized by both diversity and complexity[1]: it is caused by more than 20 leishmanial species and is transmitted to humans by ~30 different species of phlebotomine sandflies[2]. Leishmaniasis consists of four main clinical syndromes: cutaneous leishmaniasis; muco-cutaneous leishmaniasis (also known as espundia); visceral leishmaniasis (VL; also known as kala-azar); and post-kalaazar dermal leishmaniasis (PKDL). In cutaneous leishmaniasis, the patient generally presents with one or several ulcer(s) or nodule(s) in the skin. Different species of Leishmania can infect the macrophages in the dermis, with variable clinical presentations and prognoses[3,4]. The ulcers heal spontaneously although slowly in immunocompetent individuals, but cause disfiguring scars. In muco-cutaneous leishmaniasis, patients suffer from progressively destructive ulcerations of the mucosa, extending from the nose and mouth to the pharynx and larynx. These lesions are not self-healing and are usually seen months or years after a first episode of cutaneous leishmaniasis, when the macrophages of the naso-oropharyngeal mucosa become colonized. Leishmania braziliensis is responsible for most cases of mucocutaneous leishmaniasis. VL is a systemic disease that is fatal if left untreated and is caused by the Leishmania donovani complex L. donovani sensu stricto in East Africa and the Indian subcontinent and Leishmania infantum in Europe, North Africa and Latin America[5,6]. Cutaneous and visceral leishmaniasis are the common forms present in Asia. Cutaneous leishmaniasis is confined to the skin[7]. It is associated with rural areas and poverty, but it has adapted to the urban environment as well[8]. There is an estimated 185 million people at risk for cutaneous leishmaniasis in 61 countries[9]. The old world cutaneous leishmaniasis (OWCL) was not common in Pakistan before the influx of Afghan refugees. Now it is endemic in many regions of Pakistan and is spreading rapidly[10,11], especially in the refugee camps where the transmission is usually anthroponotic, i.e., humans being are reservoirs of the disease[12,13,14]. Leishmaniasis is prevalent within and along the borders of Afghanistan, India, Iran and Pakistan. Cutaneous leishmaniasis is a preventable infection that is endemic in many regions of Pakistan[11,16]. It is not a cause of mortality but can cause morbidity and social isolation due to its disfiguring complications. Many studies have been conducted in Pakistan; the focus usually is the magnitude and type of the infection[15]. A comprehensive need assessment is required to devise public health strategies for an effective prevention of this rapidly spreading infection, particularly in the Baluchistan. This study was designed to accomplish the purpose. Observing the gravity of the situation where many cases of skin ulcers and non-healing wounds were diagnosed as Leishmaniasis in the local Pakistani community; the present study was designed. The aim was to identify and characterize the skin sores of Leishmania in

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patients referred to dermatological clinic of Bolan Medical Complex, Hospital Quetta. This would help to provide a baseline to design and recommend strategies for the control of Leishmaniasis in the community and national policy making levels in Pakistan.

MATERIALS & METHODS

This study was a hospital based descriptive study conducted at dermatological clinic of Bolan Medical Complex Hospital, Quetta in which 200 school going children age 6-14 years old were participated in the study who were attended the dermatologic clinic and data were collected during the month of May 2013.Relevant clinical information was recorded. Specimens from lesion were collected under strict aseptic precautions to avoid infection. Children suffering from other skin diseases and those taking some medication for other diseases were excluded.

RESULTS

Out of 200 children, 122(61%) were males children while 78(39%) were female children. Table 1 showed that, the most common form of Leishmanisis was cutaneous Leishmaniasis 167(83.5%) and second most common form was mucocutanneous Leishmaniasis 33(16.5%) there was no any case of Visceral Leishmanisis found. Table-2 showed that, the most common presenting complaint in children was fever 161(80%) associated with the 2nd most common complaint was pallor 116(58%) found. The 3rd common complaint was diarrhea 25(12.5%) seen in children. Other presenting complaints including weight loss splenomegaly and wasting were rarely seen in children. Table 3 indicates that most common infection rate were found on hand and foot 59(29.5%) each, and 2nd common was on the face46(23%) followed by mixed infection rate36(18%) found.

Table-1 Leishmaniasis in Children

Variables	Description	Frequency	%age
Forms of Leishmaniasis	Cutaneous	167	83.5
	Visceral	0	0
	Muco-cutaneous	33	16.5

Table 2: Presenting Illness

Present Illness	Frequency	%age
Fever	161	80.5
Diarrhea	25	12.5
Weight loss	2	1.0
Pallor	116	58.0
Splenomegaly	1	0.5
Wasting	1	0.5

Table 3:

Variables	Description	Frequency	%age
Prevalence of Leishmaniasis by site	Face	46	23
	Hand	59	29.5
	Foot	59	29.5
	Mixed	36	18

DISCUSSION

Leishmaniasis is endemic in Northern Areas of Pakistan[17,18]. In Pakistan, Cutaneous Leishmaniasis (CL) is reported from a large area of Balochistan, some areas of Sindh, tribal areas of Waziristan/ Kurram Agency, Karak, Bannu, Peshawar and in Afghan refugees[19,20]. In our study there was no any case of visceral Leishmaniasis reported.

Visceral Leishmaniasis (VL) has been reported mainly from hilly areas of Azad Kashmir, Abbottabad and Murree. VL has not been reported from Peshawar so far although there are reports of VL in afghan refugees[21]. In the present study the most common cases were of cutaneous Leishmaniasis and majority of the patients were males. Another Studies in different regions supports the same results[22,23]. The higher prevalence in males was probably due to the cultural habits of the area where the females use well-covered dresses,which minimize the chances of sandfly bites. In addition women are obliged to be home before evening, the onset of the period of sand fly activity as observed by Al-Jawabreh *et al*.(24) Males sleep without shirts during summer, exposing themselves to sandflies. Travelling of males for jobs and restricting their females to houses is another factor for the higher prevalence in males[25]. Table 3 indicates a higher prevalence of infection on hand and foot may be due to the exposed area to sand fly bites at night. 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. Noyes et al[26] and Rajpar et al[5] observed the majority of lesions on the extremities. Whereas Rab et al[26] showed the majority of lesions were found on the face. A single lesion was observed in the majority of patients, 131(65.5%) while 68(34%) had 2-3 lesions, and only 1(0.5%) child had more than 3 lesions. Limitation of our 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.

RECOMMENDATIONS

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 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.

CONCLUSIONS

- The cutaneous Leishmaniasis is most common in school going children especially in males.
- There is a need to make aware the general public about using bed nets, repellents and cleanliness. Government should provide medical facilities.

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