AN OUTBREAK OF CUTANEOUS LEISHMANIASIS IN A VILLAGE OF DISTRICT DIR, N.W.F.P.

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ABSTRACT

Objectives: To study the frequency of cataneous leishmaniasis at a village inundated by sandfly.

Material and Methods: A leishmaniasis diagnosis camp was arranged at village Wattangi, district Dir. All patients with suspected cutaneous leishmaniasis having active lesion were recruited in the study. Data of the patients e.g. name, age, sex and site of lesions were entered into a register. Smears were prepared from the sides of the lesions with sterile lancets, fixed with absolute alcohol, stained with Geimsa stain and examined under microscope.

Results: Out of 40 examined patients, 37 were positive for Leishmania Tropica (L.T.) bodies. The most common site involved was face and the most common age group affected was less than 10 years.

Conclusion: The frequency of autoneous leishmaniasis is quite high at Watangi village of distt. Dir, due to infestation by sand flies, lack of medical education and low socio economic status in the area.

Key words: Leishmaniasis, Cutaneous.

INTRODUCTION

Cutaneous Leishmaniasis (CL) Oriental sore, Delhi boil, Baghdad sore, Sal Dana (Persian sal=year and dana=abscess) Kalo-saraye Dana (Pushto kal=year) is caused by species of Leishmania: Leishmania Tropica[1,2]. These protozoan parasites cause a nodular sore on the surface of the skin. The parasites laden macrophages form the nodule, which is encircled by lymphocytes that prevent the spread of the parasites to other regions of the body. The disease is usually self-limiting; however, it takes usually several months before complete healing occurs,

with residual disfiguring scars. The normal response to CL caused by either *L. major* or *L. Tropica* is a lifelong cell-mediated immunity. The transmission of infection to humans occurs through the bite of an infected sandfly from the sub-family Phlebotimidae. Sandflies become infected through feeding on infected animals. Once a sandfly is infected, it can transmit the parasite to both humans and animals for the rest of its life span. The animals that serve as reservoirs of infection are domestic dogs, cattle, horses, donkeys and rodents. Leishmaniasis can be transmitted directly from person to person through the sharing of needles, as is often the case among the intravenous drug users[3]. The protective efficacy of the vaccine against CL is 72.9%[4]. Immunity against Leishmania major requires rapid induction of a type 1 immune response in which tumour necrosis factor alpha (TNF-alpha) plays an essential role[5]. The condition is diagnosed by direct examination of the organisms under microscope of a Giemsa stained smears. In the endemic areas, the appearance of an ulcer, without any further tests, is enough to warrant treatment.

This study was conducted to see the prevalence of CL and to create awareness in the public regarding this problem. The major control measures include increased awareness, enhanced surveillance and improved reporting[6].

MATERIAL AND METHODS

We organized a Leishmaniasis diagnostic camp at Watangi, Tehsil Blambat, District Dir on Sunday August 9, 2001. The village is situated at the right bank of Panjkora river at a height of 3,400 feet and about 25 kilometers from Timergara; the head quarter of District Dir. The village has a population of about 1,000. Majority of the people are below the poverty line. Fifty one patients presented to us with skin lesions; of which 11 had healed lesions and they were excluded from the study. Patients with active lesions were included as subjects. Parameters like name, age, sex and site of lesions were entered into a register. We put these patients into 6 age groups each of 10 years, from 0-10 years, 11-20 years, and upto 60 years. Photographs of the lesions were taken with the Intel Digital Camera. Smears were prepared from the sides of the lesions using sterile lancets. The slides were kept in slide box. Later on in the laboratory the smears were fixed with absolute methanol stained dilute Giemsa's Stain and examined under microscope.

RESULTS

Of the 51 cases presented to us in a population of about 1,000, eleven cases had old lesions (healed) and were excluded from the study. We selected the remaining 40 cases with active lesions. There were 22 females and 18 males. These patients had an age ranging from 7 months to 55 years. We detected L.T bodies in 37 patients. The duration of their illness ranged from 1-18 months (Table No. 2). The commonest site involved was face 65% followed by upper limbs 15% and lower limbs 12.5% (Table 3). The commonest affected age group was 0-10 years comprising 25 (62.5%) patients.

THE PREVALENCE OF CUTANEOUS LEISHMANIASIS

	Number	Percent
Total Population	1000	100
Patients with active lesions	40	4
Patients Positive for L.T bodies	37	3.7

TABLE No. 1

DURATION OF ILLNESS WITH NO. OF PATIENTS

Duration in months	No. of patients	Percent
1	4	10.0
3	1	2.5
4	1	2.5
5	5	12.5
6	5	12.5
7	4	10.0
8	4	10.0
10	1	2.5
12	11	27.5
18	4	10.0
Total	40	100.0

TABLE No. 2

DISCUSSION

Cutaneous leishmaniasis is known to the people of District Dir since long. Sporadic cases with healed lesions can be seen in this area quite often. These cases are on rise for the last few years. The reason for this surge might be the free transit of Afghan refugees across the border, as CL is very common in Afghanistan[12]. Being in the health care system and diagnostic work up, working in the district of Dir, we come across these cases from the whole district. However, there are few villages, which are heavily affected with this disease. The village under study is hit by the leishmaniasis for the last three years and spreading fast to the surrounding locality.

According to WHO the leishmaniasis is now endemic in 88 countries, with a total of 350 million people at risk. It is believed that worldwide 12 million people are affected by leishmanisasis[3]. It is endemic at Baluchistan[7], Interior Sind, and Multan[8,9]. It is also endemic in Kuwait, Iraq, in other Middle East countries as well as in the countries all around the Mediterranean coast[10].

Cutaneous leishmaniasis appears to be a rapidly emerging disease in parts of north-east Afghanistan and north-west Pakistan, Timergara, being an Afghan refugee camp for the last 17 years experienced a major outbreak of CL in 1997 for the first time. Around 38% of the 9200 inhabitants bore active lesions and a further 13% had scars from earlier attacks[11]. Its visceral counterpart is also common at District Dir[12]. Contigo et al in 2002 reported an outbreak of cutaneous leishmaniasis in the Rio Jequitinhonha valley, Minas Gerais, Brazil. The study comprised over a period of two years. They observed 72 patients with active lesions. They attributed the outbreak to precarious sanitary conditions, low educational level and low income[13]; the same applies to our subjects. Rab et al in 1986 observed an

THE SITES OF LESIONS

Site	No. of Patients	Percent
Face	26	65
Upper Limb	6	15
Lower Limb	5	12.5
Chest	1	2.5
Multiple sites	2	5
Total	40	100

TABLE No. 3

AGE RELATED FREQUENCY

Age range	Frequency	Percent
Upto 10 years	25	62.5
11-20 years	9	22.5
21-30 years	4	10
31-40 years	1	2.5
41-50 years	0	00
50-60 years	1	2.5

TABLE No. 4

overall prevalence of active lesions of CL of 1.1% in school children 5-15 years of age of Uthal, south Baluchistan[14]. An outbreak of zoonotic CL occurred in a battalion of 80 soldiers posted at Qurayqira camp in Wadi Arabia in southern Jordan. The battalion spent an intermittent period of five and half months in the area, during which 45.0% of the soldiers showed clinical disease, the lesions, were mostly on the face and extremities[15].

The leishmaniasis has been discovered 100 years back but has not been eradicated; rather it is on rise in many parts of the world. If control measures are not taken it might become a major health problem[16].

In our series the age of the effected persons ranged from 7 months to 60 years, with duration of the lesions 1-18 months and the commonest site involved was face. Yet another study shows age range 15-52 years, duration of the lesions 1-14 months and the commonest site extremities[10]. In this study, the mainly affected age group is upto 10 years, as these patients are unable to protect themselves from the bites of the sand flies.

CONCLUSION

This study shows that leishmaniasis is very much prevalent in this area, indicating that the area is infested by the sand flies. Its complications are prevalent due to lack of medical education, proper treatment, low income and non availability of proper medication.

RECOMMENDATIONS

Education of the public to create awareness and medical education regarding protection against mosquitoes, early detection and treatment of the lesions. Control of sand flies through proper preventive measures.

Enhanced surveillance, improved reporting, and provision of medicine to the poor. WHO, PMRC and HNI are requested to extend their services/help and provide financial support for large scale serological study of the reservoirs and if possible their segregation.

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