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Original Research Paper

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STUDY TO FIND OUT PREVALENCE OF CUTANEOUS LEISHMANIASIS IN A TERTIARY CARE HOSPITAL, JODHPUR, RAJASTHAN.

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ABSTRACT

Introduction: Cutaneous leishmaniasis is a common form of leishmaniasis. It is caused by over 15 different species of the protozoan parasite Leishmania, transmitted by infected female sand fly. It is an endemic disease mostly in Thar Desert of India. Very less literature is available about its prevalence in various non-endemic areas specially in Rajasthan.

Aim of Study: To find out prevalence of Cutaneous Leishmaniasis in a tertiary care hospital of Jodhpur (Rajasthan), India

Material & Method: The study was conducted on 58 patients of Leishmaniasis of either sex attending the Out Patient Department, Department of Dermatology, MDM Hospital, Jodhpur between 2016-2018. Two smears were prepared from ulcerative lesions of each patient and then microscopically examination was done after Giemsa-staining to detect the presence of LT body.

Discussion: LT bodies were present only in 08 male and 08 female patients. Children which were having age less than 16 years showed more positivity rate (68.7%) than the adults (31.3%).

Conclusion: Skillful diagnosis, availability of diagnostic tests, annual record keeping and reporting should be done in various institutions so that serious sequel and complications can be reduce specially in children. A special concern should be made in non-endemic areas also.

KEYWORDS : Leishmaniasis, LT Bodies, Thar Desert, Giemsa-staining

INTRODUCTION:

Leishmaniasis is a vector-borne parasitic disease caused by Leishmania parasites. It is endemic to around 88 countries. Global prevalence is approximately 12 million cases, with 1–2 million new cases each year throughout Africa, Europe, Asia, and North and South America.[1, 2] According to the WHO, the annual incidence of cutaneous and visceral Leishmaniasis is 1–1.5 million and 500,000 cases, respectively.[3,4]

Infections caused by Leishmania tropica was first observed by Cunningham in 1885 in Kolkata (India). Leishmania parasite was discovered by Sir William Leishman in 1900. Leishman reported this finding from London in 1903. At the same time, Donovan also reported same parasite in a spleen smear. Hence, the name Leishmania donovani was given to the parasite.

Cutaneous Leishmaniasis caused by in the Old World is caused by Leishmania tropica, L. major, and L. aethiopica. New World leishmaniasis is caused by L. Mexicana, L. amazonensis, and L. braziliensis.[3] The disease can present in three main ways: Visceral Leishmaniasis, Cutaneous Leishmaniasis and Mucocutaneous Leishmaniasis. It is transmitted by bites of infected female sand fly "Phlebotomus sergenti". It is also known as Oriental Sore or Delhi Boil. The hallmark of cutaneous leishmaniasis is skin lesion, which can spontaneously heal in 2-10 months. The lesions appear as an erythematous papule, which can evolve into a plaque or ulcer. These lesions are usually painless.

The majority of cutaneous Leishmaniasis cases occur in Afghanistan, Algeria, Brazil, Colombia, Iran, Pakistan, Peru, Saudi Arabia and INDIA also. In India, the Thar Desert areas of Rajasthan, Gujarat, and the plains of Northwestern frontier are reported as endemic zone of cutaneous leishmaniasis. It is now showing a trend to spread to previously non-endemic areas, such as Himachal Pradesh. In 2005, a new endemic zone of cutaneous leishmaniasis in the Subalpine Valley, which is located along the Satluj River in the Kinnaur District of Himachal Pradesh.[5]

Now it is becoming an emerging public health problem in certain regions of India so it is very importance for implementing appropriate control strategies to prevent the spread of this disease to other regions. Most of the previous studies on Cutaneous Leishmaniasis were done in endemic areas of Rajasthan. Thus an attempt was made to find out the prevalence of Cutaneous Leishmaniasis in non-endemic areas of Rajasthan (Jodhpur).

AIMS & OBJECTIVES:

The study was aimed to find out prevalence of Cutaneous Leishmaniasis in a tertiary care hospital of Jodhpur (Rajasthan), India.

MATERIAL & METHODS:

58 cases of both sex having symptoms like Cutaneous Leishmaniasis attending the OPD, Department of Dermatology in MDM hospital, Jodhpur, Rajasthan, during January 2016–August 2018 were registered in this study. Further, detailed clinico-epidemiological parameters were recorded for each patient. Clinically diagnosed cases were confirmed by demonstration of parasites in Giemsa-stained skin slit smears from lesions. Lesions were classified as papules, nodules, ulcerative nodules, plaques, and ulcerated plaques.

Two smears were prepared from ulcerative lesions and then

microscopically examination was done after Giemsa-staining to detect the presence of LT body.

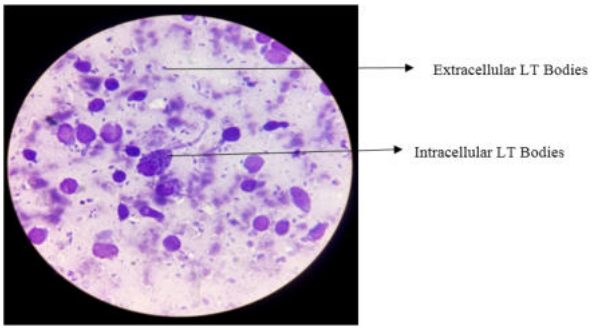

Fig: Microscopic appearance of LT Bodies in Giemsa Staining

OBSERVATIONS

During the study period a total of 58 patients having symptoms like Cutaneous Leishmaniasis were identified and their samples were taken from lesions. Out of 58 patients, 31(53%) were female and 27(47%) were male patients. LT bodies were present only in 08 male and 08 female patients. Rest 42 patients out of total 58 patients, were negative for LT bodies. Children which were having age less than 16 years showed more positivity rate (68.7%) than the adults (31.3%).

Table: Distribution of subjects and presence of LT Bodies

S. No	Age Group	No of Subjects	Presence of LT bodies
1	**0-15 years**	**22**	**11**
2	**16-30 Years**	**12**	**02**
3	**31-45 Years**	**12**	**01**
4	**46-60 Years**	**09**	**01**
5	**61-75 Years**	**03**	**01**
	Total	**58**	**16**

DISCUSSION

It was observed from the study that the prevalence of LT bodies was only 28% among the cases having symptoms like Cutaneous Leishmaniasis. Both males and females showed almost equal distribution for the prevalence of LT bodies. Further, it was also observed that, among the positive case for LT bodies, age group less than 16 years (children) showed higher prevalence (68.7%).

Venkatraman M et al[6] in 2001 observed the presence of 46.25% LT bodies in their study conducted in Oman. A similar study was also conducted in Bikaner (Rajasthan) by Aara N et al[7] in 2013 and Bikaner region was reported as an endemic area for high prevalence (69.5%) of Cutaneous Leishmaniasis. In previous studies, mostly it was reported that Cutaneous Leishmaniasis has high prevalence in these endemic areas but it is still emerging and spreading in non-endemic areas of Rajasthan including Jodhpur also (28%) as observed in this study.

CONCLUSION

Skillful diagnosis, availability of diagnostic tests, annual record keeping and reporting should be done in various institutions so that exact burden of this disease can be identified and this can be used to promote the effective treatment and preventive measures in future specially in children. Special attention should be made in children presenting with chronic, nodular or ulcerated lesion on exposed sites of body as diagnosis of cutaneous leishmaniasis among children often difficult and may be missed diagnosed leading to spreading of disease and scarring.

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