Research Article

Leishmaniasis: An Emerging slow threat in Central Kerala-A Case Series

Rini Raveendran[1], Kavya Karunakaran[2], Jyothi Chelakara Ramaswamy[3], Reimol Jose[4], Rajesh KR[5], Akshay Hareesh[1]

[1]Department of Community Medicine, Government Medical College, Thrissur, Kerala, India, [2]Deputy DMO-Thrissur, DHS, Kerala State, [3]Department of Pathology, GMC, Alappuzha, [4]Department of Pathology, GMC, Ernakulam, [5]Department of General Medicine, GMC, Thrissur, India.

ABSTRACT:

Background- Leishmaniasis is among one of world's most neglected diseases affecting the poorest of the poor, mainly in developing countries. This sandfly-borne diseases is caused by more than 20 species of the protozoan genus Leishmania.

Materials & Methods- A Record based retrospective observational study- Case series was conducted at a tertiary care centre in Central Kerala. All records were collected from the Departments of Pathology and Dermatology, Govt Medical College, Thrissur and from District Malaria Office, Thrissur of patients who were diagnosed as leishmaniasis and the records were analyzed to verify the secondary data.16 cases were obtained from the records.

Results- Majority (69%) were males with most cases in their 4th decade of life at the time of diagnosis. Even non endemic area such as Thiruvananthapuram district has reported Leishmaniasis. HIV co-infection was present in one patient with visceral leishmaniasis.

Conclusion-As Kerala is an area not previously reported to be an endemic focus for Leishmaniasis, most often the disease is misdiagnosed. Kala-azar may also be under reported in Kerala. In order to seek attention regarding Leishmaniasis at the earliest point of contact with the health department, training of the health care providers regarding the disease is crucial. This can help to develop a high level of clinical suspicion in diagnosing this disease in its early stage itself.

KEY WORDS: Leishmaniasis, Case series, Kerala, Thrissur

Address for correspondence : Dr. Rini Reveendran, Professor (CAP), Department of Community Medicine, Government Medical College, Thrissur, Kerala, India , E-mail: rinisujay@gmail.com

Submitted: 19.06.2023, **Accepted:** 10.08.2023, **Published:** 18.12.2023

INTRODUCTION:

Leishmaniasis is among one of world's most neglected diseases affecting the poorest of the poor, mainly in developing countries. This sandfly-borne disease caused by more than 20 species of the protozoan genus Leishmania appears in three basic clinical forms according to the location of parasites in mammalian tissues: visceral, cutaneous and mucocutaneous leishmaniasis. Visceral leishmaniasis is the most serious form, and is potentially fatal if untreated[1]. Globally, around 350 million people are at risk of infection and disease, and there are an estimated 1.5–2 million new cases, with 70,000 deaths each year. In India, the disease is endemic in Thar desert of Rajasthan and certain parts of Gangetic plains; however, new endemic zones are being reported within and outside these regions as well[2].

The visceral form of the disease is still endemic in India in the states of Bihar, West Bengal, Jharkhand & Uttar Pradesh[3]. Two cases of cutaneous leishmaniasis (CL) were reported in Kerala for the first time in 1988 in Thiruvananthapuram[4].

Access this article online

Quick Response Code:

Website: www.pjsr.org

DOI: doi.org/10.5281/zenodo.10400797

How to cite this article: Raveendran R, Karunakaran K, Ramaswamy JC, Jose R, Rajesh KR, Hareesh A. Leishmaniasis: An Emerging slow threat in Central Kerala- A Case Series. PJSR. 2023;16(2):1-4.

Kala-Azar is rare in South India, and there are no previous reports of visceral leishmaniasis from Kerala. Two cases of visceral leishmaniasis were reported from Kerala residing in Desamangalam and Palappilly near the forest, more than 75 km apart; who have never been out of Kerala [5]. Kollam, a district of Kerala reported Two cases of visceral leishmaniasis in February 2016 and in June 2018. Epidemiological analysis indicated no epidemiological link between the cases[6].

RATIONALE:

This record based case series highlights the emerging predominance of Leishmaniasis in Kerala and the clinical types who sought treatment at the tertiary care centre in Central Kerala for more than a decade.

MATERIALS & METHODS:

A retrospective record based case series - observational study was conducted at Govt Medical College, Thrissur comprising of records retrieved from 2000-2012. The study had obtained institutional ethical committee approval. 16 records were retrieved from Government Medical College Thrissur, a tertiary care centre in Central Kerala as part of an investigation of Leishmaniasis. All records were collected from the Departments of Pathology and Dermatology, Government Medical College and District Malaria Office, Thrissur regarding patients who were diagnosed with leishmaniasis and the records were analyzed to verify the secondary data. Their demographic factors were considered. For confirming the diagnosis of Visceral leishmaniasis, Bone Marrow Trephine had been taken and for cutaneous leishmaniasis, skin biopsy had been taken as sample.

RESULTS:

A total of 16 cases were obtained from the records. The epidemiological factors were considered. Majority (69%) were males and belonged to the age group 26-50 years [Table 1]. Mainly reported cases were native i.e; Thrissur. Lupus Vulgaris (n=2), Hansen Disease (n=2), Squamous Cell Carcinoma of Buccal mucosa (n=2), Fungal Infections (n=2) were recorded as cutaneous manifestations while Hematological Malignancy (n=3), Pancytopenia Under Evaluation (n=2), Pyrexia of Unknown Origin (n=2), Sarcoidosis /NHL (n=1) were recorded as visceral manifestations [Table 2]. Our results showed that 2 patients expired while 4 patients got better [Table 3]. Most of the cases were in their 4th decade of life at the time of diagnosis. Sporadic occurrence was seen.

Table 1: Distribution of cases based on epidemiological profile.

Year	Number of Cases
2000	1
2003	1
2004	1
2005	1
2006	3
2008	1
2010	1
2011	2
2012	3
unknown	2
Age at Diagnosis	
<25 yrs	3
26-50 Yrs	13
Gender	
Male	11
Female	5
Place of Residence	
Thrissur	7
Palakkad	7
Idukki	1
Unknown(Assam*)	1
Type of admission	
Inpatient	7
Outpatient	6
unknown	3
Department Consulted	
Dermatology	8
Medicine	5
Paediatrics	3
Diagnosis of type of Leishmaniasis	
Visceral	8
Cutaneous	8
Concomitant infection(HIV)	
Yes	1
No	15
Treatment given	
Amphotericin B	2
Liposomal AMB	1
unknown	13

*NB: *A patient from Assam –the whereabouts of local residence was not revealed.*

Table 2: Distribution based on clinical diagnosis of Leishmaniasis.

Clinical Diagnosis	No of Cases
Cutaneous Leishmaniasis	
Lupus Vulgaris	2
Hansen Disease	2
Squamous Cell Carcinoma of Buccal mucosa	1
Fungal Infection	1
Leishmaniasis	2
Visceral Leishmaniasis	
Hematological Malignancy	3
Pancytopenia Under Evaluation	2
Pyrexia of Unknown Origin	2
Sarcoidosis /NHL	1

Table 3: Distribution based on follow up of Leishmaniasis.

Followup	No of Cases
Expired	2
Symptomatically better	4
Loss to Follow up	10

Both cutaneous as well as visceral leishmaniasis occurred sporadically in Kerala.

DISCUSSION:

In our study the predominant age group was 26-50 years unlike in other study which was below 20years of age[9]. In our study visceral leishmaniasis has been reported along with HIV as co-infection in a migrant hailing from Assam, residing at Malappuram which was similar to a report by Chandran P in 2016 when two indigenous cases of visceral leishmaniasis were reported from Malappuram district of Kerala[3,6] and a case report in 2003[5]. A study from Ernakulam could not find any persons affected with Leishmaniasis among the migrant population unlike our study[10].

Our study has also reported cutaneous leishmaniasis which is similar to studies done by Simi et al which reported Cutaneous Leishmaniasis from persons residing in the Mele Aamala and Aayiramkala forest tribal settlements in Kuttichal Panchayat of Thiruvananthapuram district[4]. Similarly Lohitdasan and Muhammed K in 1988 reported two imported cases of cutaneous leishmaniasis from Trivandrum in 1988 followed by the first indigenous case of cutaneous leishmaniasisfrom Malappuram district after 2 years [7,8].

CONCLUSION:

As Kerala is a state- not previously reported to be an endemic focus for Leishmaniasis, most often the disease is misdiagnosed. Moreover, as it is being reported sporadically only, it may also be under-reported in Kerala. In order to give proper management regarding Leishmaniasis at the earliest point of contact with the health department, training of the health care providers is crucial. This can help to develop a high level of clinical suspicion in diagnosing thereby detecting the disease in its early stage itself.

Financial Support and sponsorship
Nil.

Conflicts of interest
There are no conflicts of interest.

ACKNOWLEDGMENT:

Dr Joy Augustine, HOD Pathology, AIMS, Thrissur and DMO Thrissur officials for the whole hearted support.

REFERENCES:

1. Nandha B, Srinivasan R, Jambulingam P. Cutaneous leishmaniasis: knowledge, attitude and practices of the inhabitants of the Kani forest tribal settlements of Tiruvananthapuram district, Kerala, India. Health Educ Res. 2014 Dec;29(6):1049-57. doi: 10.1093/her/cyu064. Epub 2014 Oct 17. PMID: 25325998.
2. Virath R, Gupta LK, Mehta S, Balai M, Mittal AK, Khare AK. A Clinico-Epidemiological Study of Cutaneous Leishmaniasis in a Non-Endemic Region of South Rajasthan. Indian Dermatol Online J. 2020 Sep 28;12(1):123-127. doi: 10.4103/idoj.IDOJ_378_20. PMID: 33768033; PMCID: PMC7982008.
3. Chandran P, Thavody J, Lilabi MP, Rao B, Nair MS, Shamin PR.Visceral leishmaniasis in Kerala: an emerging disease. National J Community Med. 2016;7(8):722-6. Corpus ID: 58564237
4. S M S, T S A, R J, K V, Philip RR, Paul N. Searching for cutaneous leishmaniasis in tribals from kerala, India. J Glob Infect Dis. 2010 May;2(2):95-100. doi: 10.4103/0974-777X.62874. PMID: 20606960; PMCID: PMC2889671.
5. Kesavan A, Parvathy VK, Thomas S, Sudha SP. Indigenous visceral leishmaniasis: two cases from Kerala. Indian Pediatr. 2003 Apr;40(4):373-4. PMID: 12736419.
6. Sandhya, R., Rakesh, P. S., & Dev, S. (2019). Emergence of visceral leishmaniasis in Kollam district, Kerala, southern India. International Journal of Community Medicine And Public Health, 6(3), 1350–1352. https://doi.org/10.18203/2394-6040.ijcmph20190639
7. Lohidakshan MU, Shanmugham Pillai SM, Vijayadharan M, Sarojini PA. Two cases of cutaneous leishmaniasis in Trivandrum. Indian J Dermatol

Venereol Leprol. 1988;54:161-2.
8. Muhammed K, Narayani K, Aravindan KP. Indigenous cutaneous leishmaniasis, Indian J Dermatol Venereol Leprol. 1990; 56:228-9.
9. Chapman LAC, Morgan ALK, Adams ER, Bern C, Medley GF, Hollingsworth TD. Age trends in asymptomatic and symptomatic Leishmania donovani infection in the Indian subcontinent: A review and analysis of data from diagnostic and epidemiological studies. PLoS Negl Trop Dis. 2018;12(12):e0006803. doi: 10.1371/journal. pntd. 00068 03. Erratum in: PLoS Negl Trop Dis. 2019 Feb 26;13(2):e0007150. PMID: 30521526; PMCID: PMC6283524.
10. George S, Joy TM, Kumar A, Panicker KN, George LS, Raj M, Leelamoni K, Nair P. Prevalence of Neglected Tropical Diseases (Leishmaniasis and Lymphatic Filariasis) and Malaria Among a Migrant Labour Settlement in Kerala, India. J Immigr Minor Health. 2019;21(3):563-569. doi: 10.1007/s10903-018-0767-9. PMID: 29860672.