International Research Journal of Medical Sciences _____E- ISSN 2320 –7353
Vol. **4(2),** 5-7, February **(2016)** *Int. Res. J. Medical Sci.*

Prevalance of Filariasis among Visa Applicants: An Observational Study

Ankita A Katara[1*], Abhishek V Pandey[2], Richa Mishra[1] and Shashank V Srivastava[1]
[1]Hind Institute of Medical Sciences (HIMS), Lucknow, Uttar Pradesh, India
[2]Eras Lucknow Medical College, Lucknow, Uttar Pradesh, India
dr.ankitakatra@gmail.com

Available online at: www.isca.in, www.isca.me
Received 15th January 2016, revised 8th February 2016, accepted 27th February 2016

Abstract

Parasites present a serious threat to millions of people all over the world. Parasite prevalance is considered as one of the important health indicator of a society. Parasitic infections still impose a substantial burden on the economy of a country and thus affect the National Development programs. A retrospective study was conducted in Hind Institute of Medical Sciences, Lucknow (HIMS), Uttar Pradesh for a period of 1.5 years (July 2014 to December 2015) on the visa applicants for Mauritius, who came for medical fitness. A total no. of 48 visa applicants came for medical fitness. 24(50%) of patients turned out to be Microfilarae positive. Out these 24(50%) patients, eosinophilia was found in 21(87.5%) of patients. Prevalance of Microfilarae was very high among the visa applicants. This data emphasizes on the importance of knowing the epidemiology of filariasis in areas of Lucknow and nearby places. Maximum number of patients were of the age group of 20-35 years.

Keywords: Prevalance, Filariasis, Visa, Observational.

Introduction

Parasites present a serious threat to millions of people all over the world. Parasite prevalance is considered as one of the important health indicator of a society. Parasitic infections still impose a substantial burden on the economy of a country and thus affect the National Development programs.

A retrospective study was conducted in Hind Institute of Medical Sciences, Lucknow, Uttarpradesh (India), for a period of 1.5 years (July 2013 to December 2015) on the visa applicants for Mauritius, who came for medical fitness. Many people from Eastern region of Uttar Pradesh go to Mauritius on work visa. Visa applicants for Mauritius has to undergo medical fitness. Blood samples were collected from these patients. To diagnose the presence of microfilarae Flow through antibody spot/immunodot method was used.

A total no. of 48 visa applicants came for medical fitness. 24(50%) of patients turned out to be Microfilarae positive. Out of these 24(50%) patients, eosinophilia was found in 21(87.5%) of patients. Prevalance of microfilarae was very high among the visa applicants. This data emphasizes on the importance of knowing the epidemiology of filariasis in areas of Lucknow and nearby places. Maximum number of patients were of the age group of 20-35 years and were natives of Gorakhpur and Basti district of Uttarpradesh, where filarias is is endemic.

Materials and Methods

A retrospective study was carried in the department of Pathology, Hind Institute of Medical Sciences (HIMS), Lucknow, Uttar Pradesh. Visa applicants for Mauritius has to undergo medical fitness. For fitness certificate following investigations are done like Hemogram, Serology (Human Immunodeficiency Virus(HIV), Hepatitis B antigen (HBSAg), Hepatitis C Virus(HCV), Malarial parasite, Microfilaria, Treponema Pallidium Hemagglutination Assay(TPHA) and Rapid Plasma Reagin (RPR)),Urine and Stool examination. Blood, urine and stool samples were collected. For the diagnosis of microfilaria Flow through antibody spot/immuno Uttar Pradesh, dot method was used. In this blood sample is first centrifuged to separate the serum, then take 200microlitre of serum and dilute it with 800microlitre of normal saline. Take MF (microfilaria) card, pour 2 drops of buffer then pour 100microlitre of diluted serum, then again pour 2 drops of buffer. In the end pour 2 drops of conjugate and then 2 drops of buffer once again. Read the result within 5 minutes.

Results and Discussion

Table-1 shows percentage of microfilarae positive cases among the total number of visa applicants, who came to Hind Institute of Medical Sciences for medical fitness. In general, filariasis was found in 50% of total number of visa applicants for Mauritius.

Table-2 and Table-3 show that 21 (43.75%) cases out of total presented with eoisinophilia on hemogram.

Table-4 shows that 87.5% of cases presented with eosinophilia out of total number of microfilarae positive cases.

Table-1
Number of cases positive for microfilarae

Total number of cases	Number of cases positive for microfilarae	Percentage
48	24	50%

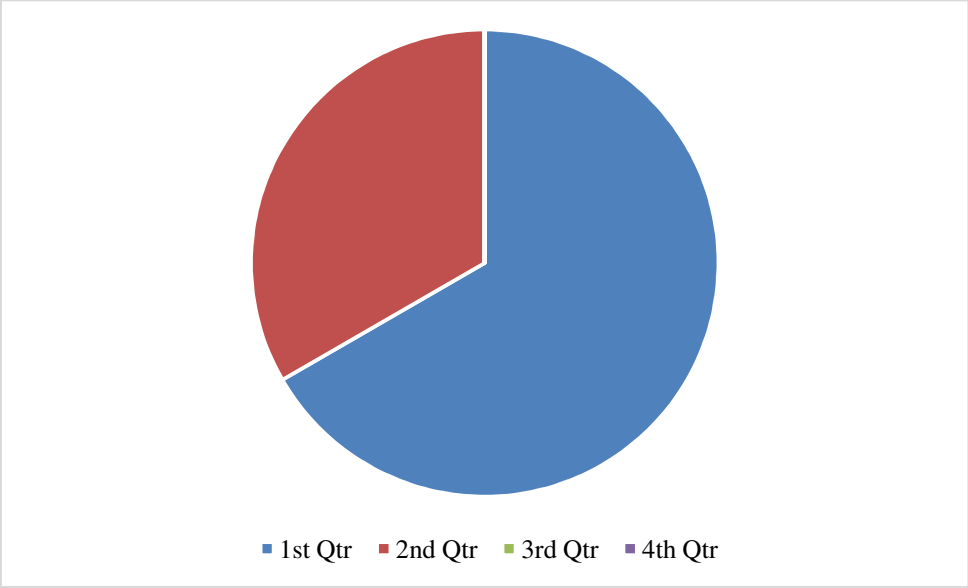

Figure-1
Percentage of Cases Positive for Microfilarae

Table-2
Caption

Total number of cases	Total number of cases positive for microfilarae	Total number of cases showing eosinophilia
48	24	21

Table-3

Total number of cases	Total number of cases showing eosinophilia	Percentage
48	21	43.75%

Table-4

Total number of cases positive for microfilarae	Total number of cases showing eosinophilia	Percentage of microfilarae cases showing eosinophilia
24	21	87.5%

Discussion: Despite of development in the health services, parasitic diseases are still an important public health problem in most of the developing countries. Filariasis constitute a substantial health problem in these developing countries[1]. In India lymphatic filariasis is caused by Wuchereriabancrofti and Brugiamalayi. Filariasis is endemic 17 states and 6 union territories. Government of india has started a campaign under National Vector-Borne Disease Control Programme (2003). This campaign aims at elimination of filariasis by 2015. In our study all the positive cases were males which correlates with many studies which shows that the prevalence of microfilarae is more common in males in comparision to females[2-4]. The Serological testing for Circulating Filarial Antigen(CFA) is more sensitive test than thick smear test.

87.5% cases of microfilarae positive cases showed eosinophilia

on hemogram. Eosinophils are hematopoietic cells involved in innate immunity, inflammation and hemostatic host responses. Typically eosinophils in peripheral blood are <500 cells/cumm[5,6]. All over the world helminthic parasites show a significant association with eosinophilia. Eosinophilic Blood Count is found high in parasites which migrates through tissue example schistosomiasis, Filariasis, strongyloidiasis and paragonimiasis[7].

Conclusion

Filariasis still pose a substantial threat to mankind specially in developing countries. Filariasis is endemic in large part of our country. The rate of infection increases throughout childhood and adolescence although it may be many years before the clinical features are seen. Filariasis is endemic 17 states and 6 union territories. Government of india has started a campaign under National Vector-Borne Disease Control Programme (2003). Highest endemicity of filariasis is seen in the state of Bihar (over 17%) followed by Kerala (15.7%) and Uttar Pradesh (14.6%).

References

1. Sabesan S., Palaniyandi M., Das P.K. and Michael E. (2000). Mapping of lymphatic filariasis in India. *Ann Trop Med Parasitol,* 94, 591-606.

2. Rajagopalan P.K., Das P.K., Subramanian S., Vanamail P. and Ramaiah K.D. 1989. Bancroftian filariasis in Pondicherry, South India: 1, Pre-control epidemiological Observations. Epidemiol Infect, 103, 685-92.

3. Das P.K., Manoharan A., Subramanian S., Ramaiah K.D., Pani S.P. and Rajavel A.R. (1992). Bancroftian filariasis in Pondicherry, South India: Epidemiological impact of recovery of the vector population. *Epidemiol Infect,* 108. 483-93.

4. Nair C.P. (1960). Filariasis in centrally administered areas: Part1: Filaria surveys of Pondicherry settlement. *India J Malariol*, 13, 233-52.

5. Roufose F. and Weller P.F. (2010). Practical approach to the patient with hypereosinophilia. *J Allergy Clin Immunol.,* 126, 39-44.

6. Nutman T.B. (2007). Evaluation and differential diagnosis of marked, persistenteosinophilia. *Immunol Allergy Clin North Am.*, 27, 529-49.

7. Tefferi A. (2005), Blood eosinophilia: A new paradigm in disease classification, Diagnosis and Treatment. *Mayo Clin Proc.,* 80, 75-83.