Prevalance of Filariasis among Visa Applicants: An Observational Study

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Abstract

Parasites present a serious threat to millions of people all over the world. Parasite prevalence 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. Prevalence 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 prevalence 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, Uttar Pradesh (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 microfilariae 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. Prevalence of microfilariae 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 filarisis 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 Hemaggulination 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/immununo 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 microfilariae 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 eosinophilia on hemogram.

Table-4 shows that 87.5% of cases presented with eosinophilia out of total number of microfilariae positive cases.
Table 1

<table>
<thead>
<tr>
<th>Total number of cases</th>
<th>Number of cases positive for microfilarae</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>48</td>
<td>24</td>
<td>50%</td>
</tr>
</tbody>
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Figure 1
Percentage of Cases Positive for Microfilarae

Table 2
Caption

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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. In India lymphatic filariasis is caused by Wuchereribancrofti 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. 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**


