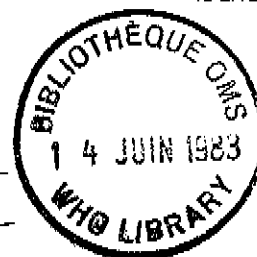




EXPERT COMMITTEE ON LYMPHATIC FILARIASIS

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WORKING PAPER ON NON-FILARIAL ELEPHANTIASIS IN INDIA -
ITS SIGNIFICANCE AS A DIAGNOSTIC PROBLEM



by

N. L. Kaira
National Institute of Communicable Diseases
Delhi, 54

Two types of non-filarial elephantiasis namely, elephantiasis nostras (streptococcal)¹ and elephantiasis silicosis (alumino-silicosis)² are known to overlap the distribution of filarial elephantiasis. Filarial elephantiasis is believed to be associated with streptococcal infections.

In India, non-filarial elephantiasis was detected at Bikaner (Rajasthan) for the first time.³ Investigations did not reveal any history or prior movement of the patients to any filarial endemic area. Night blood examination of the patients, their family members and of the population in the immediate neighbourhood was negative for microfilaraemia. Filaria surveys carried out have repeatedly failed to show evidence of filarial transmission at any time in the past.⁴ In view of this, and also of the unfavourable ecology of the terrain for the vector breeding, and the absence of mf in the night blood smears of the community during the current survey; all these points have led to conclude that these cases were of non-filarial origin.

No confirmatory test exists to establish filarial etiology of elephantiasis. However, the overwhelming association of elephantiasis and filarial transmission is important epidemiological evidence of causal association.

The symptomatology of the elephantiasis as encountered at Bikaner (Rajasthan) was somewhat similar to the alumino-silicosis elephantiasis of East Africa inasmuch as in both types the swelling first appeared in the feet and later spread up to the knees. The infection, which was restricted to the lower extremities only, was either unilateral or bilateral. Rajasthan cases were also distinct in that the swelling, which appeared during the first pyrexial lymphangitis attack, persisted; whereas in filarial elephantiasis the permanent retention of the swelling comes about after the third or fourth acute attack. Further it was found that the process of irreversible swelling in Rajasthan cases was complete by the age of 15 years. In the absence of any systematic investigation of the etiology, its cause remains obscure. Whether the disease is caused by a toxin from the soil absorbed through bare feet - a common practice in Rajasthan - can only be a matter of speculation.

In a recent population-based study⁵ conducted by the National Institute of Communicable Diseases to determine the extent of the elephantiasis problem in non-endemic areas of filariasis, the disease rate in Bikaner (Rajasthan) was estimated to be 0.7% while in Imphal (Manipur) and Aizwal (Mizoram) it was found to be 0.05% and 0.1% respectively. It may be seen that Rajasthan, which showed high disease rates, is situated in North West India and includes typical desert and semi-desert areas and is geologically and ecologically distinct from filarial endemic areas. Therefore, the typical elephantiasis phenomenon occurring in this region appears to be terrain-bound and is unlikely to extend to filarial endemic areas.

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Two other areas in eastern India viz, Manipur and Mizoram which are ecologically similar to filarial endemic areas recorded a very low rate of elephantiasis of non-filarial origin and hence the contribution of this phenomenon to the prevalence of filarial elephantiasis in endemic areas may be negligible.

However, it may be concluded that until such time as non-filarial elephantiasis can be accurately diagnosed, and/or sensitive immuno-diagnostic tests for filarial elephantiasis are developed, the problem of correct assessment of the extent of non-filarial elephantiasis in filaria endemic areas will remain obscure.

REFERENCES

1. Castellani, A. (1969) Researches on Elephantiasis nostra and Elephantiasis tropica with special regard to their initial stage of recurring lymphangitis (lymphangites recurrence elephantogenica), J. Trop. Med. Hyg., 72, 89-97
2. Price, E. W. (1972) The pathology of non-filarial elephantiasis of lower legs, Trans. Roy. Soc. Trop. Med. Hyg., 66, 150-159
3. Kalra, N. L. (1976) Non-filarial elephantiasis in Bikaner, Rajasthan, J. Com. Dis., 8, 337-340
4. Rao, C. K., Russel, S. & Das, M. (1976) Filaria problem in non-endemic states - India, J. Com. Dis., 8, 221-229
5. Russel, S., Krishna Rao, Ch. & Rao, C. K. (1983) Estimation of non-filarial elephantiasis in non-endemic States (paper accepted for publication in J. Com. Dis.)

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