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SCREENING SERA FROM THE ADULT POPULATIONS OF MASHHAD AND GONBAD FOR ANTI BODIES TO HTLV-1

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ABSTRACT

Human T-cell lymphotropic virus, type 1 (HTLV-1) is considered to be the causative agent of adult T-cell lymphoma/leukemia and spastic paralysis, and seems to be common in Khorasan Province.

300 blood samples from Mashhadi and 180 from Gonbadi blood donors were obtained (all samples from healthy subjects). Serological screening was done by passive particle- agglutination test and confirmed by Western blot test.

10% of Mashhadi and 3.3% of Gonbadi residents were positive for HTLV-1 antibodies.

Our findings suggest that Mashhad may be within a previously unrecognised endemic region for HTLV-1 which may be a major health problem for Khorasan Province.

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INTRODUCTION

Human T-cell lymphotropic virus type I (HTLV-1), considered to be the causative agent of adult T-cell lymphoma/leukemia and spastic paralysis, seems to be common in Khorasan Province.

HTLV-1 infection has been described in southern Japan, the Caribbean basin, and the northern parts of South America.[1,2] Adult T-cell leukemia due to HTLV-1 has been reported from Khorasan, the north-east of Iran, previously.[6] Because of these findings, we undertook a serological study for HTLV-1 antibodies in 480 residents of Mashhad and Gonbad. This is the first report of serological study of HTLV-1 in Iran.

SUBJECTS AND METHODS

300 blood samples from Mashhadi blood donors and 180 from the city of Gonbad were obtained, all samples were from healthy subjects.

Serological screening was done for HTLV-1 antibodies on serum samples by passive particle-agglutination tests (serodia-HTLV-1 Japan). We used Western Blot method on positive samples for confirmation.

RESULTS

Table I summarizes the serological results. 17% (51 out of 300) Mashhadi and 10% (19 out of 180) Gonbadi residents were positive.

All positive sera were confirmed by Western blot (Fig.1).

Table I- Prevalence of seropositivity of HTLV-1.

Origin	No tested	No positive	Percent
Mashhad	300	30	10
Gonbad	180	6	3.3

*This study is the preliminary report of a research project supported by a grant from the Iranian Institute for Expansion of Knowledge and Research.

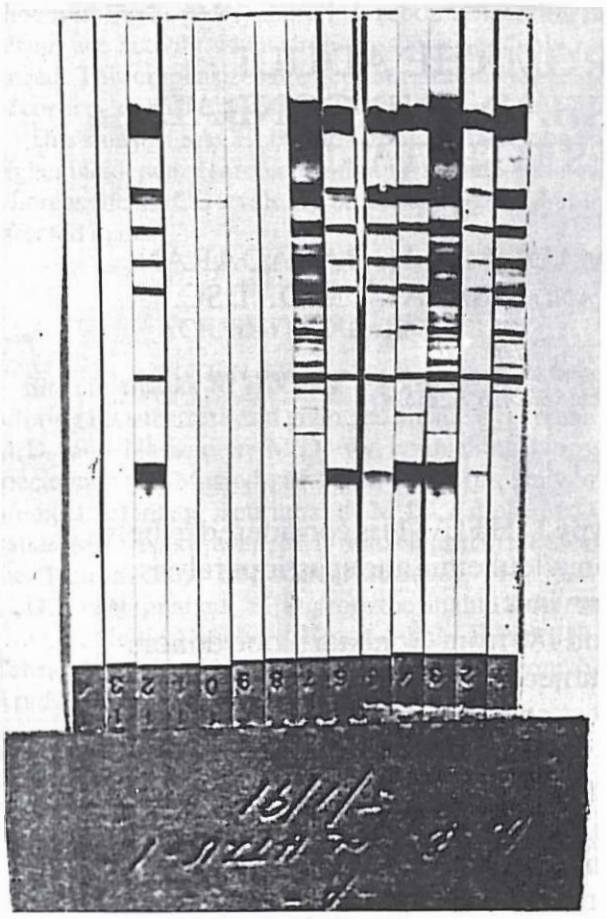

Fig. 1. Western blot on positive sera.

DISCUSSION

HTLV-1 discovered in 1980 by Poiesz, et al,[3] represents the prototype human oncoretrovirus having a multipathological potential.

This virus is associated with severe cases of adult T-cell lymphoma/leukemia, spastic paralysis, and mycosis fungoides.[4] These diseases are more frequent in people of Mashhad origin.[5,6] This is the first report of screening study on serum from normal population of Mashhadi and Gonbadi origin in whom different types of cancer is common.

We have identified 10% of Mashhadi blood donors to be positive for HTLV-1. This donor sample may not be truly representative of the normal population. Further work is in progress which will be reported in the near future (R. Farid, unpublished).

Our findings suggest that Mashhad may be within a previously unrecognised endemic region for HTLV-1 which may be a major health problem for Khorasan Province, especially because it is transmitted sexually, chiefly from men to women, from mother to child by breast feeding, and by blood transfusion.[7]

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