

The Significance of HTLV-I in Molecular Oncology

The study of tumor viruses opens an exciting avenue for understanding the mechanisms of virus pathogenesis. Human T-cell lymphotropic virus-I (HTLV-I) is a member of Retroviridae family Deltaretrovirus genus. The vast majority of HTLV-I infected subjects (~95%) do not develop any significant diseases; however, a small proportion, about 2-3 percent, will develop associated diseases which usually occur after several decades of infection. The virus is endemic in several regions of the world, such as southwestern Japan, the Caribbean, Central Africa, South America, the Melanesian Islands and the Middle East. Khorasan provinces in northeast of Iran is an endemic area for this virus. Although, there are speculations for the origin of the virus in this area, the source of the virus still remains unknown. It has been known that HTLV-I was brought in the New World by human migrations. Historically the Silk Road has been one of the important parts of the ancient trade routes. It is also a land bridge between the Iranian plateau, central Asia and Indus valley. Therefore, it seems that the land routes of this road or the sea routes (more likely) has been facilitated the spreading of HTLV-I in Khorasan.

HTLV-I was considered by researches from two different aspects. Firstly, HTLV-I is asymptomatic in more than 95 % of infected subjects, however, it can be considered as a neglected public health problem whose nature of transmission and diseases may be unknown to many health professionals. Furthermore, unscientific nomenclature in this part of the world by physicians causes threatening attitude and the lack of care in public health for HTLV-I, and prolongs the infection among people. Thus, HTLV-I infected subjects experience an “invisibility” of their demands and feel strong depression. Therefore, HTLV-I can be considered as a neglected public health problem and needs more attention from authorities.

Secondly, HTLV-I pathogenicity, its oncogenicity and inflammatory reactions is very important to bring it to attention of researches. In very small minority of infected subjects (2-5%), the virus is associated with two important human diseases: a neoplastic disease, adult T-cell leukemia/ lymphoma (ATL) and the inflammatory condition, HTLV-I-associated myelopathy/tropical spastic paraparesis (HAM/TSP). Moreover, there are studies which introduce this virus as a cause for infective dermatitis and uveitis.

To share the spirit of the successful studies on Human T Lymphotropic Virus (HTLV-I), we hope that this special issue on HTLV-I and related diseases will provide good opportunity for scientific discussions and exchange of ideas, data and reagents and particularly introduce academic activities in this endemic region to our colleagues around the world. To promote such interactions, and to encourage participants to present results in Iranian Journal of Basic Medical Sciences (IJBMS), the clinical and basic articles are presented in the same issue. The HTLV-I studies around the world have already benefited from many collaborative and a relatively free flow of reagents. In case of HTLV-I, cellular and viral protein interactions open avenue for discovery of new classes of cellular modulators, which may induce cell cycle deregulation and disrupting host immune responses toward malignancy and autoimmunity. Therefore, we wish to encourage researchers to share their data and establish exciting series of collaborations on the field of oncogenicity and immunopathology.

You are very welcome to the site of IJBMS in Mashhad University of Medical Sciences, and do not hesitate to contact us if you have any questions and queries.

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