Measurement of Metaloproteines (MMP-2 and MMP-9) levels in sera of blood donors infected by HTLV1 virus in Mashhad

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**ARTICLE INFO**

**Keywords:** Elisa, HTLV1, MMP, Western blotting, Zymography

**Abstract:** Metaloproteines are endopeptidases with different roles including disintegration of extracellular matrix (ECM) while, considerably increase in infected HTLV1 sera persons. The virus belongs to Retroviruses family and is a tomorigen virus. Measuring elevated sera level of MMP-2 and MMP-9 in healthy blood donors (HTLV1 infected) in endemic area could regard as a screening tool in identification of asymptomatic infected cases.

**Materials and Methods:** A total of 38136 serums of donors were screened using Elisa in 450 nm and 0.030 absorbance for negative control and 0.225 absorbance for cut-off. Western blotting performed on suspected positive samples and finally Zymography accomplish by Multi Gage software on the confirmed positive samples. Value of each band was normalized by Graph pad Prism V5 software. Then data was analysis by SPSS16.

**Results:** The 171 cases screened as suspicious positive by Elisa while in western blotting (60/171) cases confirmed as positive observing P19 with or without P24 band and two other (rgp46 and Gd21) bands. In Zymography assays two distinct bands 72 and 92 KD band appeared in zymogram for MMP-2&MMP-9 respectively.

**Conclusion:** Prevalence of HTLV1 infection in asymptamic donors was 0.160%. Zymography on serum of HTLV1 positive patients showed that MMP-2 and MMP-9 values has significant increase in comparison to control group (p<0.01). Follow and treat in such cases by suppressing this enzymes could led to prevent acute phase of the disease caused by the HTLV1 virus in the earliest phases. Future investigations proposed on monitoring studied enzymes in healthy blood donors.