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Paper: RELATIONSHIP BETWEEN SERUM LEVELS OF MMP-9 AND LATE OCULAR COMPLICATIONS

Author(s): GHAZANFARI T.*, YARAEI ROYA, GHASEMI HASAN, MASDARI Z., VAEZ MAHDAVI M.R., MOHAMMAD HASAN ZOHEYR, FOROUTAN A., SOROUSH M.R., NAGHIZADEH M.M., FAGHIHZADEH S.

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Abstract:

Background: Sulfur mustard (SM) is a chemical warfare agent which has been used extensively during Iran- Iraq war. One of the major late complications is ocular complications. Matrix metalloproteinases (MMPs) are a group of zinc and calciumdependent endopeptidases which play important roles in the homeostasis of extracellular matrix (ECM) and inflammatory conditions. It has been proved that MMP-9 , as a member of MMPs, is involved in many inflammatory ocular disorders.

Aim: The aim of this study was to evaluate the relation between serum MMP-9 and late ocular complications of SM exposure.

Methods: In this study, 72 chemical veterans with late ocular complications (case group) & 63 chemical veterans without ocular complications (control group) were selected from Sardasht via a systematic sampling. Ophthalmologic examinatia of the study group was performed by slit lamp and serum MMP-9 was measured by ELISA sandwich method.

Results: The median of serum MMP-9 was 849.3pg/ml in the case group and 787.0pg/ml in the control group. There was no significant statistical difference ($p=0.700$). There was also no statistical relationship between serum MMP-9 and each involved ocular region.

Conclusions: In many studies, It has been proved that MMP-9 expression is increased in tear fluid & culture media of conjunctival & corneal epithelial cells from patients with ocular inflammatory diseases. Therefore, assessment of MMP-9 in mentioned samples of chemical veterans with ocular complications would be valuable.

Keyword(s): MMP9, MUSTARD GAS, CHEMICAL VICTIMS, OCULAR COMPLICATIONS, SARDASHT

**Contact Us**

Address : No. 69, Niroo Avenue, Satarkhan Street, Tehran, Iran
Post Code : 14536-33143
Tel/fax : +982144265001-4

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