• NFκB Gene Expression Survey in Peripheral Blood Cell of Sardasht Cemical Victims 20 Years after Exposure to Sulfur Mustard

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Background: Transcription factor NFκB is responsible for a large number of genes expression including inflammatory cytokines, chemokine, immune receptors, enzymes and other preinflammatory molecules. NFκB deviation is one of the mechanisms of some diseases especially those that are associated with inflammation or apoptosis. Sulfur mustard is an alkylating agent that can damage enzymes, DNA and other macromolecules, also induces oxidative stress responses. Results obtained from recent studies on Sardasht sulfur mustard victims 20 years after exposure showed alterations on immune and inflammatory responses. Regard to NFκB significance in inflammatory and its related cytokines in this research we assessed NFκB level in these victims. Materials and Methods:Population study was 189 people of Sardasht sulfur mustard victims and control group include 32 people of Rabat civil. Sampling procedure was systematic random. The result analyzed by SPSS and X^2 and T-test static procedures. For nonparametric analysis Mann-Witney and Kruskall-Wallis were used. NFκB expression levels were evaluated by standard PCR in peripheral white blood cells. Results: Result assessment in two groups showed that NFκB median in exposure group were 188.75 ngr/µl and in control group were 142.84 ngr/µl which NFκB expression level in exposure group was upregulated. This increasing was significant (P= 0.009). Conclusion: NFκB factor involved in many cellular functions, so it's increasing or decreasing has its own results. Due to reduction of inflammatory factors in these victims, its decline was expected but the results of this study showed its increment which likely was for compensates the reduction of inflammatory factors.

Keyword: NFκB, Sulfur mustard, Sardasht, cytokine, inflammatory, PCR,