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Poster Presentation

Post-Traumatic Stress Disorder and Inflammation

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Abstract

Post traumatic stress disorder, a special disease that also accompanies with histological changes such as inflammation. In this paper we decided to review the relation between PTSD and inflammation. Stressful events causes immune sys tem dysfunction by suppressing natural killer cells and altering levels of cytokines. Also in this condition, cytotoxic T lymphocytes results in under strained pro-inflammatory cytokines (PICs). These pro-inflammatory cytokines play an important role in the disease generating and their overproduction lead to nitric oxide (NO) and reactive oxygen species (ROS). Elevated ROS can cause cell death and tissue damage also there are some special cellular mechanism that intervenes in this process and prevent of cell death, tissue damage, but their exact mechanisms is still unknown. PIC upregulation is due to activation of inflammasome more over than leukocytic responses. Inflammosomes are protein complexes that cooperate with pattern-recognition receptors (PRRs). When inflammosomes activates, it converses pro-caspase 1 into its active form which lead to PIC production and intervenes the inflammatory response. These cytokines can across the blood brain barrier and reach to the central nervous system an activate microglials which causes producing more cytokines and this causes a positive feedback loop. A study which has done to investigate the cytokines which are in common with inflammatory cytokines. In this study, the participants divided into two groups the control and the experiment. Studying their peripheral blood revealed that interleukin 1β, interferon γ were higher than the control group. Tumor necrosis factor α in PTSD patients who did not take any medication, were increased in comparison with the controls. It would be interesting to you to know that interleukin 1β, TNFα and interleukin 6 are also depression cytokines and it would be a reason for accompanying PTSD by depression. It can be concluded that more investigations is needed to detect the histological mechanism of psychological diseases such as PTSD, moreover than its psychological diseases.

Keywords: Post Traumatic Stress Disorder, Inflammation, Histological Changes

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