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OXIDATIVE STRESS IN PATHOGENESIS OF POSTTRAUMATIC STRESS DISORDER IN A CONTINGENT OF INTERNATIONAL OPERATIONS

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Objective

The Contingent of the International Operations (CIO) is subject to various actions of extreme factors that can cause Posttraumatic Stress Disorder (PTSD). In addition to the considerably growing excitotoxity level it leads to uncompensated oxidative stress (OS) due to accumulation of the excess of the reactive oxygen species. Neuronal membranes phospholipids are especially vulnerable to OS caused damage, the injury causing the receptor-mediated signal transduction and, furthermore, information processing disorders. Difficulties in rating and interpreting arise because of inhomogeneity in gender, race, age, nutritional and deployment factors, different stressful military experiences.

Research aim: to assess PTSD and OS levels and their correlation in CIO.

Methods

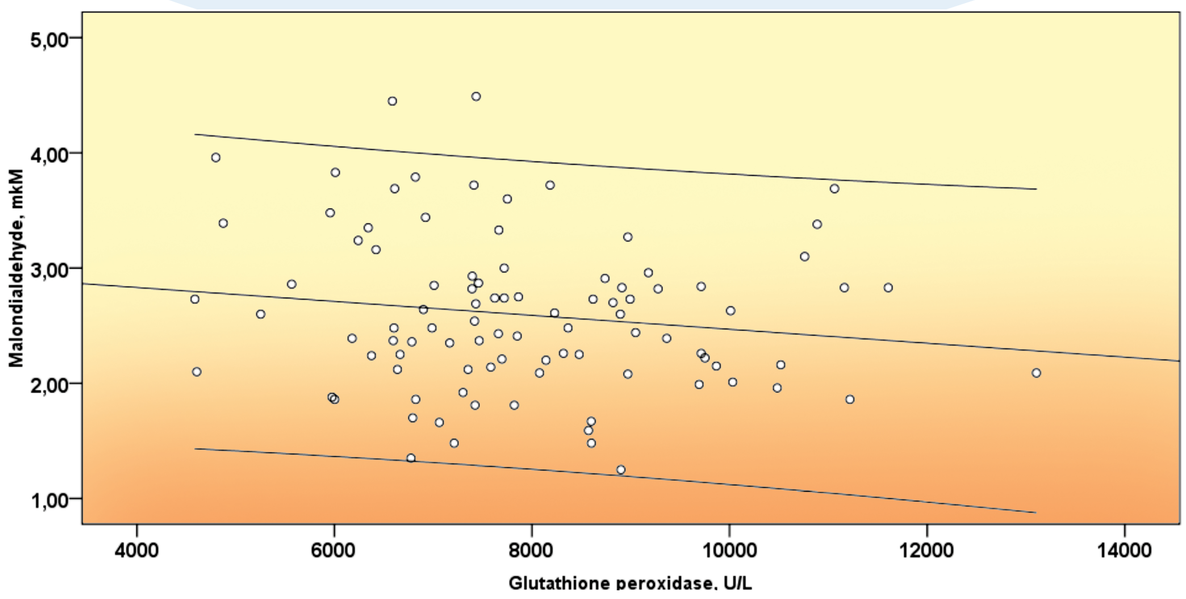
Prospective study. Examination of totally 143 participants: Latvian CIO, regular personnel, males, Europeans, average age 27.4, before and after the same Peace Support Mission (PSM). PTSD evaluation was done by using PCL-M Checklist in the Latvian language. Antioxidant enzyme activity – Glutathione peroxidase (GPx) and lipid peroxidation intensity – Malondialdehyde (MDA) as OS indicators in blood were determined. The data were processed using SPSS 15.0.

Results

Before PSM: response rate (RR) 97.9%, answers of study participants corresponded to the necessary criteria of PTSD diagnosis – prevalence rate (PR) constituent 0.036, GPx level 8061,98 U/L, MDA level 2,5582 μM. After PSM: RR 91.9%, PTSD PR increased by 144% (0.088), GPx level decreased by 9.4% (7308,31 U/L), MDA level increased by 24.4% (3,1815 μM). Conclusions: There is a positive correlation between the increase of OS and PTSD levels in CIO. Increased free radical level beyond excitotoxity is a possible causal factor for clinical manifestation of PTSD.

Keywords

- Oxidative Stress;
- Excitotoxity;
- Posttraumatic Stress Disorder;
- Military;
- Contingent of the International Operations.



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