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Higher serum IL-10 levels in resilient patients exposed urban violence exposure

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The immune system is related in the pathophysiology of trauma and stress related disorders. Subjects with PTSD had significantly higher pro-inflammatory scores compared to combat-exposed subjects without PTSD, and its activation may be a core element of PTSD pathophysiology. The aim of this study was to evaluate serum interleukin-6 (IL-6) and interleukin-10 (IL-10) levels in case-control study. The study group comprised 30 patients who sought treatment in the Post Traumatic Outpatient Clinic at Clinical Hospital of Porto Alegre (Net-Trauma-HCPA), after suffering an urban violence event and had a confirmatory diagnosis of PTSD based on DSM-IV criteria. The resilient group comprised 30 individuals selected among relatives accompanying patients admitted at HCPA. We selected relatives who were exposed to urban violence traumatic event but did not develop PTSD matching with PTSD patients on age and gender. Also, resilient individuals had to be free of PTSD symptoms, current mental disorders and psychiatric medication. To be included in the study, PTSD and Resilient subjects had to be free of morbidities affecting the immune system. In this sense, autoimmune diseases, human immunodeficiency virus (HIV) or hepatitis C virus (HCV) infection, rheumatic diseases, recent viral or bacterial infection or immunosuppressive therapy with steroids, non-steroidal anti-inflammatory drugs, acetylsalicylic acid or immunosuppressive drugs, undernourished or overweight (according to BMI) and pregnancy were considered exclusion criterion. The study was approved by the Institutional Review Board (IRB) of the Hospital de Clínicas de Porto Alegre (HCPA) under number 10-0450. All subjects freely agreed to participate in the study. The cortisol levels were similar in both groups, indicating that different traumatic event exposures have developed a biological response to stress similar between groups, confirming the homogeneity of the groups. Resilient controls presented higher IL-10 levels than patients with PTSD [mean (CI); 1.03 (0.51-2.08) pg/mL vs. 0.29 (0.20-0.43) pg/mL; $p = .002$]. The mean (CI) levels of IL-6 were 2.02 (1.58-2.58) and 2.51 (1.69-3.72) pg/mL for PTSD cases and controls, respectively ($p = .361$). In conclusion, higher serum IL-10 levels found in resilient patients after traumatic urban violence exposure provide clues for the adaptation of the immune system after trauma and stressor related disorders. Keywords: Post-traumatic stress, urban violence, interleukin. Projeto 10-0450