ACUTE COLD STRESS EFFECTS ON MACROPHAGE ACTIVITY IN ANXIOUS AND NON-ANXIOUS MICE

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Physical and psychological stressors have been reported to modify multiple aspects of endocrine and immune systems. These alterations diversify depending on individual susceptibility, which exists even in isogenic mice. Many factors have been described to influence individuality, including maternal stress, early life experiences and social status, leading to alterations on behavior, neuroendocrine and immune parameters in adulthood. Our purpose was to investigate a possible correlation between anxiety profiles and phagocytosis after acute cold stress. Male Balb-C mice were assessed in a Elevated Plus-Maze(EPM) apparatus, a widely used test of anxiety-like behavior. To minimize the influence of circadian circle, observations were performed at the same time period of the day. The videotapes were scored and the animals were classified into anxious and non-anxious. Both groups were maintened at 4°C for 4h. Then, peritoneal macrophages were collected and incubated (37°C for 45min) with IgG-opsonized erythrocytes, complement-opsonized erythrocytes or zymosan. Macrophage phagocytosis was avaliated by optical microscopy. Anxious mice scored about 7,2±3,2sec on open-arms, while non-anxious scored 225,7±17,5sec. Although the groups showed significant differences in EPM ($p<0,001$), phagocytosis was not altered in our preliminar data. Other parameters in neuroendocrine and immune systems will be investigated to clarify some aspects involving the variability on stress reactivity between different profiles of behavior.

Keywords: anxiety, stress, macrophage, phagocytosis

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