**CARDIOVASCULAR ACTIVATION DURING SOCIALLY EVALUATED COLD-PRESSOR TEST IS ASSOCIATED WITH CHANGES IN IMMUNE FUNCTION BUT NOT WITH ACTIVATION OF STEROID STRESS HORMONES**

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Cold and other environmental stressors are known to affect blood pressure and heart rate. The cold pressor test is a cardiovascular test used clinically to evaluate autonomic and left ventricular function. Longitudinal studies have shown that an exaggerated vascular response and pulse excitability during cold pressor test can be considered a predictor of hypertension (Wood et al. 1984). The test is associated with clear increases in blood pressure and heart rate, but not with activation of hormones important in the stress response. To obtain a more complex view on neuroendocrine activation, a psychosocial component of the stressor (e.g. social evaluation) needs to be added (Schwabe et al. 2008). The aim of the present study was to test the hypotheses that 1) the neuroendocrine response of healthy subjects during socially evaluated cold pressor test depend on the level of stress perception and 2) neuroendocrine response during the test includes the activation of the immune system. The test was performed in healthy volunteers by 2 min immersion of one hand in ice water while watched by an experimenter. The volunteer was simultaneously videorecorded. As expected, there was a significant rise in systolic and diastolic blood pressure and in the heart rate. In contrast, there were no changes in salivary alpha-amylase activity (a marker of sympathetic activation), cortisol and aldosterone concentrations. When the subjects were stratified according to scores in a self-assessment scale on stress perception into a low and high distress group, no differences in cardiovascular and endocrine parameters were observed. However, subjects in the high distress group showed significantly higher salivary interleukin-1beta concentrations in the pre-stress time period. The mechanisms and significance of this new phenomenon remain to be elucidated.

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