

ポスター | E. ホメオスタシス

[1P]ストレス

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[1P-065] ヨーガ実践中の交感神経活動の評価と実践後の気分の変化に対する影響

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Yoga even an acute practice is known to improve autonomic function and mood, and reduce stress. Mostly, these effects are measured with physiological responses, for example, blood pressure, heart rate (variability), and cortisol, as well as with self-reported questionnaires, before and after a yoga practice. The mechanisms underlying the effect of yoga practice on physical and mental health are poorly understood, but the autonomic nervous activity, especially sympathetic nervous activity (SNA), during yoga may be involved in improvement of autonomic nervous function and mood. In fact, it is, according to the circumplex model of emotion, suggested that changes of mood are associated with SNA. In most yoga style, physical movements of the body and breathing exercises have been used. These components can modulate the SNA during yoga, but the SNA during yoga, and its effect on mood remain unclear. In this study, we assessed SNA during yoga, using heart rate variability (HRV), and determined the relationship between SNA during yoga and changes in mood, using correlation analysis. Ten young adults participated as subject in this study, and they were novices at yoga (aged 20 to 27 years, n=3 females). All subjects completed the four interventions (CON, sedentary control; YOG, slow movement accompanied with paced breathing, i.e., yoga; BR, only breathing synchronized with yoga movement; MOV, yoga movement alone with free breathing pattern) for 20 min while watching the same yoga video to control the movement and breathing patterns. Heart rate was continuously recorded using heart rate sensor (Union Tool Co. Tokyo, Japan) during the experiment. The low- (LF: 0.04-0.14Hz) and high- (HF: 0.15-0.4Hz) frequency components were measured from R-R interval, and LF/HF ratio (an index of the SNA) was calculated. Mood was assessed using Profile of Mood States questionnaire before and after each intervention. LF/HF during YOG and BR was significantly increased compared with before the intervention, and LF/HF after YOG tended to be decreased compared with before the intervention. LF/HF during YOG and BR, but not MOV, were significantly higher than CON. In addition, the rate of change in LF/HF by intervention was positively correlated with the increase rate in Vigor score, and negatively correlated with Fatigue post-intervention score. These findings suggest that sympathetic nervous activation due to yoga may be involvement in the mood post-yoga as well as autonomic function.