# 研究業績　英文表記

| 和文 | |
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| 表題 | 最大握力運動時の前頭葉の酸素動態 |
| 著者名 | 高元宗一郎、古賀 浩二、久保山直己 |
| 所属 | 西九州大学健康栄養学部健康栄養学科、大阪商業大学総合経営学部公共経営学科 |
| 英文 | |
| Title | Frontal Lobe of Oxygen Dynamics at the Time of Maximum Grip Strength Exercise |
| Author | Soichiro Takamoto, Kouji Koga, Naomi Kuboyama |
| Affiliation | Department of Health and Nutrition Science, Faculty of Health and Nutrition Nishikyushu University<br>Department of Business Administration, Osaka University of Commerce Science |
| Abstract | Neuroimaging studies have reported that the cerebral oxygenation decreases at voluntary exhaus□tion during several exercises. Near-infrared spectroscopy (NIRS) allows non-invasive monitoring of the change in cerebral oxygenation during exercise. The aim of this study was to investigate the inter□action between the changes in oxygenation of the prefrontal cortex and the force of maximal voluntary muscle contraction (MVC) during repetitive handgrip MVC exercise. Eighteen healthy male subjects performed a maximal handgrip task (3-s contractions/3-s rest, 50 contractions). The force of MVC de□creased significantly during exercise ($p<0.05$). The prefrontal cortex oxygenation in contralateral side to exercising hand increased after the start of exercise, then gradually decreased with the increased contractions ($p<0.05$, respectively). In addition, there was no significant relationship between the cere□bral oxygenation and the ratio of the force of MVC ($p>0.05$). The results of the present study indicate that the changes in the prefrontal cortex oxygenation do not necessary follow the voluntary exhaustion during an exercise. |
| keyword | Motility fatigue, Muscle discharge, NIRS |

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