研究業績　英文表記

和文	
表題	**THE CHANGE IN MUSCLE FUNCTION AND CENTRAL OXYGENATION DURING AN EXHAUSTION TASK**
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Title	**THE CHANGE IN MUSCLE FUNCTION AND CENTRAL OXYGENATION DURING AN EXHAUSTION TASK**
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Abstract	In this study, we investigated the activation of the prefrontal cortex (PFC) on both sides during the maximum hand grip task (MHG task). Seven healthy right-handed male subjects participated in this study. With the functional Near infrared spectroscopy (NIRS) probe placed on the PFC, the subjects repeated the MHG task for 3 seconds 50 times. The oxygenation value in the contralateral prefrontal cortex (Contra-PFC) and the ipsilateral prefrontal cortex (Ipsi-PFC) increased significantly ($p<0.01$) compared to the baseline value from the start of the MHG task, then the oxygenation value of the Contra-PFC gradually decreased. On the other hand, the oxygenation value of the Ipsi-PFC was significantly increased compared to the baseline value until the task end. The maximum hand grip strength (MHG strength) and the integrated electromyograph (iEMG) decreased significantly from the start of the task ($p<0.05$). After that, while the significant activation of the Ipsi-PFC was continuing, the values of iEMG and MHG strength were not further reduced until the task was completed. In conclusion, as fatigue accumulates during tasks, the Ipsi-PFC may become more active than the Contra-PFC to prevent further degradation of the muscle function.
keyword	MHG task,PFC,NIRS,iEMG

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