研究業績　英文表記

和文	
表題	暑熱環境下における脊髄損傷競技者の発汗機能
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英文	
Title	Studies of physiological responses of perspiration function in athletes with spinal cord injury in hot environments
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Abstract	The purpose of this study was to clarify the influences of exercise-related stress on thermoregulatory in hot environments in athletes with spinal cord injury of perspiration functional level. The subjects consisted of 8 male wheelchair athletes with spinal cord injury, 4 healthy male college athletes(SG). Informed consent was obtained from all subjects. The measurement periods were in each year September. Examination of the perspiration functional level carried out 30 ℃ of arm cranking ergometer at 60%Vo2max for 60 minutes by the artificial climate chamber of 30 ℃ ,RH 60%.The exercise was performed using an arm cranking ergometer at 60%Vo2max for 30 minutes, in a climatic chamber while hot(35°C or 40°C) water was circulated through a control tubing suit. Ass track and field exercise, examination of movement with the track and field exercise of a summer was carried out for 60 minutes in the athletic field (WBGT28 ℃) at the pace of a 24km/hour of 8 male wheelchair athletes with spinal cord injury and 13km/hour of SG. The measurement items were the perspiration rate, tympanic temperature and mean skin temperature.The results were as follows: 1. From the level of the perspiration function, 4 persons who were than 8 cord injury athletes' amount of average perspiration were made into the cord injury athlete(NG), 4 persons who were made into the cord injury athlete(LG), and the college student athlete was made into SG. About the amount of perspiration of each group, and the drying rate, the difference was accepted between the NG, LG, and SG. 2. The thermoregulatory response by thermal control tubing suit wear had [the perspiration function of 40 ℃ warm water exposure, autonomic nerves, and internal secretion] the large rise of the average skin temperature of the LG which is inferior in a perspiration function, although NG and SG did not accept a difference. 3. As for the difference before and behind the movement load in the game form under summer heat environment (WBGT28 ℃), the rise of tympanic temperature was suppressed for NG from LG in the amount of perspiration as a result which had more NG than LG. These results suggest a risk of heat disorder due to impaired perspiration on exercise at a high temperature in wheelchair athletes with spinal cord injury. Preventive measures such as the use of a cooling jacket are required. In addition, it is important to clarify the degree of perspiration impairment in wheelchair athletes with spinal cord injury.
keyword	spinal cord injury, hot environments, perspiration function

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