

LETTER TO THE EDITOR

Response to: 'Plasma IL-6 levels during arm exercise in persons with spinal cord injury'

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We read with much interest, the published article 'Plasma IL-6 levels during arm exercise in people with spinal cord injury' by Umemoto *et al.*¹ We wish to share our scientific views on the published topic. Interleukin-6, which is considered as one of the mediators of acute inflammation and acts as an anti-inflammatory response, was portrayed clearly to have an impact on arm exercises among subjects with spinal cord injury. Even though the study provided a new insight into the field of immunological component and its impact on exercises, we would like to suggest few more points to improve the research component in the respective field.

Regarding the subject selection criteria, the authors mentioned an important component of excellent health at the time of the study and no medications that would have affected the immune or endocrine system. We would surely like to query the term 'excellent health', as spinal cord injury patients had a certain amount of disability based on the level of the lesions.

The authors mentioned that the test ended when the subjects reached exhaustion and Borg scale of 20. Borg scale, which is otherwise called as the rate of perceived scale, has many number of scales. The scale that would have been used in this study is 15-point scale and has scores from 6–20. However, an earlier study described that modified 0–10 Borg scale is a valid and reliable tool for assessing dyspnea.² It would be better if the authors had cited a reference for the points on the Borg scale and its ranges, which would have made the readers to understand, more clearly.

Regarding the role of an electrocardiogram, it would be clearer if authors had mentioned that the electrocardiogram used in this study was to ascertain the abnormal changes in the cardiac activity while performing exercises. Similarly, in relation to the time periods of the exercises, the authors have mentioned in the second paragraph of study protocol that the subjects started to exercise on an arm crank ergometer for 2 h at an intensity of 60% VO₂ max. But Table 2

and the third paragraph of the study protocol showed that they had performed the exercise for 60 min. Therefore, we would like to suggest that the protocol specify a period of 2 h but the arm exercise be performed for a period of 1 h only, instead of mentioning that 2-h arm ergometer exercise be performed at an intensity of 60% VO₂ max.

The results suggest that neither was there any significant muscle damage nor were any inflammatory responses reported during the exercise. Moreover, these results cannot be generalized as it was carried out on fewer samples. Therefore, we would like to suggest further studies with proper methodological protocol and larger sample size, in order to know the results on the immune system in specific populations. We wish to congratulate the authors for the excellent work and thank the editor for publishing such an important research.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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1 Umemoto Y, Furusawa K, Kouda K, Sasaki Y, Kanno N, Kojima D *et al.* Plasma IL-6 levels during arm exercise in persons with spinal cord injury. *Spinal Cord* 2011; 49: 1182–1187.

2 Kendrick KR, Baxi SC, Smith RM. Usefulness of the modified 0–10 Borg scale in assessing the degree of dyspnea in patients with COPD and asthma. *J Emerg Nurs* 2000; 26: 216–222.