



Response to the Editor



We thank Yunhwan Lee for their comments on our review paper of locomotive syndrome (LS). Yunhwan Lee raises some valid points about the concept of LS. The definition of LS needs further clarification because its current scope is limited to physical frailty, excluding neurological or psychiatric disorders, because cognitive and mental disorders often present as impaired mobility among the elderly population.

We agree with this point, at least in part, because in older adults with LS is often combined with mild cognitive impairments in clinical situation. However, the relationship between LS and cognitive dysfunction is not clear from previous studies, but mild cognitive impairment was significantly associated with the incidence of osteoarthritis of the knee [1]. Thus, cognitive impairment may limit activities of daily living and may lead to musculoskeletal dysfunction. I suggested that the concept of LS be divided into primary LS and secondary LS. Of course, primary LS is a result of ageing and is often combined with diagnoses of several musculoskeletal diseases. By contrast, secondary LS is because of other diseases or situations as highlighted by Yunhwan Lee. For example, after surgery a patient may be immobilized at the acute hospital stage. This may reduce lower muscle strength and result in physical deconditioning, ultimately leading to musculoskeletal problems and locomotive dysfunction. However, the concept of LS includes musculoskeletal problems; e.g. osteoarthritis, osteoporosis, and lumbar disease. That these diseases cause a higher incidence of falling and fractures is well known [2,3]. LS was proposed as a message to older adults to be aware of their own musculoskeletal health [4]; indeed, 30% of received nursing care is directed towards musculoskeletal problems. Thus, the concept of LS must include problems based on musculoskeletal dysfunction.

GLFS-25 is a useful method for discriminating LS from other conditions, but this questionnaire for assessment of ADL is self-administered as highlighted by Yunhwan Lee. Recently, assessments of LS include an advanced and combined physical functional test; two step test and standing test. This combination of tests can be used to assess locomotive function comprehensively. The Locomo risk test has a significant relationship with GLFS-25 score [5]. It is possible that the

tests may predict future disability. In particular, I suggested this physical test is suitable for young and middle aged adults because it is difficult to apply to older adults. GLFS-25 or GLFS-5 or the Locomo risk test including physical performance tests could be used selectively depending on characteristics of the target subjects. Risk factors for LS are not clear because there has been no prospective study. Whether older adults with LS have fractures is not known. However, I believe that risk factors include not only ageing, but also lifestyle: diet, exercise habit, and nutrition. Further study is needed to clarify the risk factors for LS.

Finally, Yunhwan Lee highlighted the terms and definitions for dysmobility syndrome. I think “Frailty” is the best international term in geriatrics to indicate comprehensive geriatric syndrome [6]. The concept of LS may cover physical frailty, because LS indicates physical disability, and it is related to social and cognitive disability. The location of LS as a concept is needed internationally for geriatric syndrome. The concepts around frailty or sarcopenia require organization, and assembled in LS for treatment of the elderly.

References

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