

Searching for a relevant definition of sarcopenia: results from the cross-sectional EPIDOS study

With great interest, we read the recent paper by Dupuy *et al.* 'Searching for a relevant definition of sarcopenia: results from the cross-sectional EPIDÉmiologie de l'OSTÉoporose study'.¹ The authors examined the prevalence of sarcopenia by using six different definitions of sarcopenia in 3025 non-disabled women aged 75 years or older participating in the EPIDÉmiologie de l'OSTÉoporose study. The analysis revealed sarcopenia prevalence ranging from 3.3% to 20% depending on one of the six used definitions, where only 3.1% of the patients were identified as sarcopenic according to all of these definitions. This paper highlights the current problems in sarcopenia research in general and creates an academic discussion.

Indeed, after Baumgartner *et al.* defined sarcopenia as muscle mass being two standard deviations below the normal appendicular muscle mass divided by height squared,² a number of consensus definitions combining low muscle mass with parameters of physical performance (e.g. low gait speed or low hand grip strength) have been proposed.^{3–5} A wide range of diagnostic criteria of sarcopenia definition and diversity of the methods for muscle mass assessments leads per se to a high variety of the sarcopenia prevalences.^{2,6–8}

However, all of sarcopenia definitions are mainly directed to condition observed in elderly individuals. Nonetheless, loss of muscle mass has been observed beyond mere ageing-related changes in a number of acute and chronic diseases. Evaluation of sarcopenia prevalence in specific cohorts of patients, for example, suffering from chronic kidney disease,^{9,10} chronic heart failure,¹¹ hip fractures,¹ or hemiparetic stroke,¹² is difficult because of lack of an appropriate disease-related sarcopenia definition. Thus, in the present paper, the patients with walking or femoral neck fracture disabilities were excluded. This seems a clinical shortcoming as identification of sarcopenia especially in these patients and its prevention and or treatment might contribute a lot to the therapeutic success.

Recently, two new terms for disease-associated muscle wasting, such as myopenia and 'muscle-wasting disease'

have been suggested.^{13,14} However, the principle difference between both terms and the sarcopenia consensus definitions is that these new terms do not reflect a reduction of muscle strength that contributes to physical disability.^{6,15} The sarcopenia definition of Baumgartner *et al.* as well as early studies investigating the sarcopenia in community dwelling elderly considered only the reduced muscle mass but ignored functional decline. In the present study, the authors concluded that regardless of which of the six definitions of sarcopenia was applied, no increment in the predictive information on self-reported physical difficulties could be obtained. If this holds true, the clinical relevance of adding functional capacity to the sarcopenia definition might be questioned. This study included only female subjects. In contrast, a previous study, examining sarcopenia in a cohort with 998 male and female subjects, revealed an association between functional impairment and poor health outcome in sarcopenic patients.¹⁶ Therefore, in our opinion, further work is needed to clarify if including of both muscle mass and measures of physical performance are more reliable for diagnosing of sarcopenia.

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Conflict of interest

The authors declare no conflict of interest.

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