Sarcopenia and vertebral fracture

To the editor,

We read with interest the article by Iida and colleagues looking at sarcopenia in patients with vertebral fractures [1]. Both these conditions are important issues, especially in Asia. Osteoporotic vertebral fractures are not uncommon in the elderly and are under recognised [2]. A recent review article on vertebral fracture found that the age-standardised incidence was highest in South Korea, followed by USA and Hong Kong, e.g., for women, the rates were 1377, 939, and 662 per 100,000 respectively, i.e., 2 of the top 3 countries with a high incidence of vertebral fractures are in Asia [3]. For sarcopenia, the Asian Working Group for Sarcopenia estimated that between 4.1% and 11.5% of the over 65 year old age group would have sarcopenia [4].

Thus, rehabilitation after an osteoporotic fracture should obviously be seen as a musculoskeletal problem rather than just a skeletal problem. This study has highlighted several important issues that would have clinical implications. Sarcopenia assessment pre-morbid/prior to, and at presentation, of a fracture is not universally comprehensive with a few exceptions. The fact that this study demonstrated the prognostic role of such assessment is important given the much poorer outcome in terms of ability to return home 1 year after the fracture. Healthcare resources could be directed to those at higher risk to improve outcomes.

However, we have several queries and comments:

The authors have defined sarcopenia based only on densitometric criteria i.e., muscle mass, rather than the suggested combination of muscle function and muscle mass. Although the authors stated that they could not evaluate walking speed in the patients following a fracture, could the patients have had their grip strength assessed?

We are not clear as to why the subjects were divided into “Osteoporosis” and “Without osteoporosis” groups. Since if they have had “osteoporotic vertebral fractures,” shouldn’t they all be osteoporotic?

There were 396 study subjects, but only “about” 336 subjects had a 1-year follow-up. Could the authors be more specific as to exactly how many patients had a 1-year follow-up? In addition, can they provide information on those who were not followed up? If the patients who dropped out were significantly different in any of the characteristics, then the conclusion of the study would be less robust.

This study only looked at patients hospitalised for their vertebral fracture, presumably consecutive admissions without selection. Were there patients who did not require hospitalization? And were they studied in a similar manner?

Almost all the male elderly subjects in this cohort have sarcopenia — 102 out of 111. Do the authors have any comments as to why this is so? Many studies, though not all, have shown higher rates of sarcopenia in men compared to women [4], but never by this much especially when there is no difference in the age between the genders. Or does this reflect the social background of men being less likely to be involved socially and thus less active which may have contributed to the higher rate of sarcopenia?

We know that earlier and adequate pain control improves mobility and reduces bone loss. The inclusion criteria include subjects within a month of onset of symptoms. We do know that a month of inactivity can cause quite substantial skeletal muscle loss. Do the authors have data to look at the time of presentation from onset of symptoms to see if this has any bearing on sarcopenia?

As indicated by the authors, vitamin D (in particular) and bisphosphonate treatment may improve outcome, was there data to indicate the rate of treatment in this cohort?

Table 3 is titled “Comparison between patients with and without osteoporosis,” but yet the table headings are “sarcopenia” and “without sarcopenia.” Is there a typographical error?

Conflicts of interest

No potential conflict of interest relevant to this article was reported.

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