


Bone/Muscle Interaction as a Good Biomarker for Lifespan and Quality

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We have read with the outmost interest the recent publication by Dayer SR et al¹ entitled “Does Superior Bone Health Promote a Longer Lifespan?” which paves the path of a direct implication of bone health on longevity. This paper was then followed by an intriguing letter to the Editor by Nguyen VH² entitled “Superior Bone Health for Promoting Longer and Better Lives” which invoked for a wider understanding of such situation, requiring for life quality to be added to the mixture as another positive influence of superior bone health. We concur in both cases with the authors, strongly believing that the quality of life is not just equally important with the longevity, but it is undoubtedly also interrelated to it. However, the “superior bone health” presents a state that prevailed notwithstanding the external/internal opposing forces (ie disease). In this context we would like to try headhunting for the “bad guys” that might be responsible to the situation and that we feel are often misunderstood and misinterpreted. Amongst others, osteosarcopenia presents a novel concept which intends to describe the coexistence of both osteoporosis/osteopenia (lower bone mineral density) and sarcopenia (lower muscle mass and function (strength and/or performance)) within the same person. It has already been described as a serious risk factor for both mortality and morbidity.³ Having in mind the consequences of osteoporosis/osteopenia and sarcopenia on bone and muscle independently but also interchangeably through the functional muscle-bone unit,⁴ it should be amongst the top priority obstacles on the path to a greater lifespan, always not undermining the potential share of genetic and other environmental influences on the matter.

Since the presentation of the revised definition, diagnostic algorithm and criteria from the European Working

Group in Sarcopenia for Older People (EWGSOP2),⁵ where the key diagnostic component shifted from low muscle mass to low muscle strength, the later has been exponentially emphasized for its implication on negative outcomes (such as morbidity, mortality or lifespan).^{6–8} As the worldwide population is rapidly ageing, the percentages of people suffering from osteosarcopenia (or even each of the conditions separately) is expected to dramatically increase in the upcoming years. Thus it would be important to encourage researchers to shift attention towards further investigating the age-related interaction between bone and muscle health, as well as their inter-related function (considering as a whole concept) as a predictor of longer and better lives. We believe that bone superiority should present a good and promising longevity marker, but analyzing it in relation and association with muscle strength might help reaching the real maximal capacities.

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