



## Letter to the Editor

## Sarcopenia index: More than an marker of muscle mass



Dear Editor,

The authors of the interesting article “Validation of the sarcopenia index (SI) to assess muscle mass in the critically ill” [1] are to be praised by developing of a simple, cheap and useful method to assess muscle mass in critically ill patients. The SI is the ratio (serum creatinine/serum cystatin C) x100, and physiologically it makes sense because creatinine is a substance produced exclusively by muscle while the cystatin C is constantly produced by all nucleated cells, and both substances are freely filtered by the glomeruli and not reabsorbed. They, as other authors they cite in the article, found a significant relation between SI and muscle mass assessed by TAC or electrical bioimpedance and, more importantly, it has been also demonstrated that a low SI is a predictor of clinically relevant events, such as longer length of hospital stay in ICU patients [1], need of future hospitalization in stable chronic obstructive pulmonary disease outpatients [2] or future bone fracture in type 2 diabetic patients [3].

A low SI index may be due to a decrease in the numerator, and/or an increase in the denominator. In the clinical setting the factors related with a decrease in the numerator are well known and easily excluded. Regarding the denominator it is also known the important role of cystatin C as a secreted inhibitor of cathepsins, so serum cystatin C levels increase in hyperthyroidism, obesity, metabolic syndrome, diabetes mellitus type 2, and different types of inflammation, infections and cancer, albeit in different degrees [4,5]. So, a low SI not only informs about low muscle mass, but it is also a marker of serious diseases that activate cathepsin production. In any case the clinical utility of this marker seems to be very promising and deserves more research focused in the different pathological conditions.

## Conflict of interest

None declared.

## References

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C.A. Amado\*

Hospital Universitario Marqués de Valdecilla, Servicio de Neumología,  
Spain

M.M. Ruiz de Infante

Hospital Sierrallana, Servicio de Anestesiología, Spain

\* Corresponding author. Hospital Universitario Marqués de Valdecilla, Servicio de Neumología, Av. valdecilla SN, Santander, Cantabria, 39005, Spain.

E-mail address: [carlosantonio.amado@scsalud.es](mailto:carlosantonio.amado@scsalud.es) (C.A. Amado).

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