LETTER TO THE EDITOR

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Sarcopenic obesity: time to target the phenotypes

The term 'sarcopenic obesity' has one main criticism: it does not mean anything. Obesity is not a homogeneous condition, and the regional distribution of adipose tissue is important to understand the relationship of obesity to sarcopenia.[1]

The term 'sarcopenic obesity' has been proposed to identify obesity with low skeletal muscle function and mass, but its definition and the diagnostic criteria utilized in literature remain clearly insufficient.[2] It is worth noting that in literature, there are currently over 500 articles with controversial results on the impact of obesity on sarcopenia.

As suggested by obesity paradox, the subcutaneous adipose tissue appears to be protective against an adverse prognosis and the positive association between subcutaneous adiposity and muscle has been explained by biomechanical forces or by increased aromatization of androgens at the subcutaneous adipose tissue (SAT). As opposed, the visceral adipose tissue (VAT) is associated with elevated levels of IL-6, C-reactive protein, IL-1 receptor antagonist, and soluble IL-6 receptor and contributes to the development and progression of sarcopenia.[3]

It is claimed that 'sarcopenic obesity' is an obsolete concept that defines people who simultaneously have an excess of body fat greater than median or >27% in men and 38% in women and loss of strength and muscle mass.[4]

The ambiguity is primarily related to obesity due to a paucity of established diagnostic guidelines related to visceral and subcutaneous adipose tissue.

For this reason, we highly recommend making a distinction in the next studies between sarcopenic subcutaneous obesity and sarcopenic visceral obesity.

This distinction has already been made to differentiate osteosarcopenic visceral and subcutaneous obesity, but as yet a common basic line has not begun to emerge.[5]

In addition, we suggest using a standardized criteria for diagnosing the phenotypes with the VAT\SAT ratio.

Primarily, this concept should be considered in the clinical setting, irrespective of the fact that visceral obesity phenotype can be assessed with the high visceral adiposity by DXA (>542.31 g for men and >257 g for women), CT scan (>100 cm^3), trunk circumference (waist-to-hip ratio >1 unit) or (MRI > 150 cm^3).[6]

Secondly, we know that the current criteria remain insufficient due to lack of studies that discriminate between the different phenotypes.

Last but not least, what we have to take into consideration is not only the outcome 'phenotype of obesity' but also all independent conditions that might affect the relationship of 'fat muscle', for example, physical activity, hormones deficit, genetic variability and nutritional status.

Thus far, the inability to standardize a clinical research definition of sarcopenic obesity has prevented this field from moving forward, and therefore, we need to consider at least the two phenotypes as 'sarcopenic visceral or subcutaneous obesity', in order to define the best target therapies as quickly.

Ethical statements

The authors certify that they comply with the ethical guidelines for authorship and publishing in the *Journal of Cachexia, Sarcopenia, and Muscle*.[7]

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