

'Unlocking' sarcopenic obesity: A review provides clarity on key aspects of disease impact and treatment

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Body composition—the distribution of bone, muscle, and fat in the body—can yield vital information on the metabolic and nutritional status

of a patient. Several studies have demonstrated the impact of abnormalities such as sarcopenia, which is a gradual decline in skeletal muscle mass and/or strength, and obesity, defined as excessive fat accumulation, on poor outcomes in diseases.

Sarcopenic obesity has been designated as a combination of sarcopenia and obesity. Research is underway on the key mechanisms by which the combination of muscle wastage and fat tissue accumulation leads to liver disease. However, there is no consensus on the exact definition, [diagnostic criteria](#), and pathogenesis of sarcopenic obesity. In the absence of this information, it is impossible to determine the prevalence of sarcopenic obesity and its clinical implications.

To meet this need, researchers from the Tianjin Medical University General Hospital explored the current research trends in sarcopenic obesity. In a review published in *Portal Hypertension & Cirrhosis*, the team discusses the role, progression, pathogenesis and treatment of sarcopenic obesity.

"The majority of literature considers sarcopenia and obesity as two separate pathological parameters which are evaluated individually per patient. The lack of a standard definition of sarcopenic obesity has led to inconsistent information regarding the estimated prevalence, patient classification, clinical relevance, and therapeutic strategy," explains Professor Chao Sun, a member of the research team and the corresponding author of the article.

The team found that the diagnosis of sarcopenic obesity depended mainly on the diagnosis of both conditions individually. However, no universally accepted definitions for sarcopenia and obesity exist, leading to an absence of standardized diagnostic criteria for sarcopenic obesity. Therefore, it is necessary to find more valid and suitable methods in the identification of this pathological trait.

The team also noted that sarcopenic obesity might contribute to various liver diseases, including nonalcoholic fatty liver disease, chronic viral hepatitis, liver cirrhosis, and hepatocellular carcinoma. Moreover, several pathophysiological pathways were involved in the pathogenesis of sarcopenic obesity, including anabolic resistance, insulin resistance, and persistent inflammation.

"Considering the multifactorial conceptual framework of sarcopenic obesity, several issues regarding its management should be addressed, which include enhancing [muscle strength](#); increasing muscle quantity; and decreasing excess fat accumulation and fat-associated [metabolic disorders](#) and inflammation," comments Prof. Sun on the long-term implications of this work. By clarifying the pathogenesis of sarcopenic obesity among patients with [liver disease](#), it is plausible to develop potential therapeutic avenues. For example, due to its effectiveness, rifaximin (an oral nonsystemic antibiotic) might be used in the prevention and treatment of sarcopenic obesity by modulating the gut microbiome, controlling systemic inflammation, and improving insulin resistance.

Dr. Sun concludes, saying that they "believe that future research will focus on the synergistic effect of sarcopenia in the context of coexisting obesity, especially its association with adverse health complications. A unanimous definition, diagnostic criteria, and available measurements warrant further research and intensive investigations."

By focusing on sarcopenic [obesity](#) as a whole, the team hopes that their findings can provide some much-needed clarity on the topic.

More information: Yangyang Hui et al, Sarcopenic obesity in liver disease: Handling both sides of the penny, *Portal Hypertension & Cirrhosis* (2022). [DOI: 10.1002/poh2.10](https://doi.org/10.1002/poh2.10)

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