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Letter to the Editor

Reply — Letter to the Editor — Impact of sarcopenic obesity on outcomes in patients undergoing living donor liver transplantation

Dear Editor

We are grateful to Dr. Safer and colleagues for their interest and comments [1] regarding our recently published article [2]. We reported that survival after living donor liver transplantation (LDLT) was worse for patients with, than without sarcopenic obesity. Safer et al. raised concerns about our definition of sarcopenia and the protocol for measuring muscle mass.

We acknowledge that the present definition of sarcopenia in Europe and Asia is a low quantity of muscle and decreased muscle strength or walking speed as a reflection of physical activity [3,4]. Therefore, we should, strictly speaking, describe that worse survival after LDLT is associated with low skeletal muscle mass accompanied by obesity. We understand the importance of muscle strength in sarcopenia. However, whether muscle strength can predict adverse outcomes more effectively than muscle mass remains controversial. We reported that a decrease in muscle strength alone did not affect mortality after LDLT [5]. The combination of low muscle mass and decreased muscle strength, which is the correct current definition of sarcopenia, negatively impacted survival after LDLT. We are now prospectively investigating the impact of sarcopenic obesity by evaluating not only muscle mass, but also muscle strength and physical activity.

In terms of the protocol used for measuring muscle mass, Safer et al. stated that a retrospective analysis of CT images acquired using various instruments between "2006 and 2015" has the potential for variation in Hounsfield unit (HU) attenuation. Firstly, we retrospectively analyzed 277 adult patients who underwent LDLT at our center between 2008 and June 2016 and not 2006 and 2015 (i.e. we examined more recent cases). Secondly, all preoperative plain CT images were acquired from patients using the same Aquilion 64 multidetector-row CT scanner (Toshiba Medical Systems, Tochigi, Japan) with the technical parameters of 120 kV (tube voltage), 0.5 mm × 64 row (detector configuration), tube current modulation, 0.5 s/rotation (gantry rotation), and 7-mm reconstruction thickness. All cross-sectional CT images acquired at the L3 level were evaluated using an Aquarius iNtuition Server (TeraRecon, San Mateo, CA, USA) to identify skeletal muscle as areas of −29 to 150 HU, which is the established standard method of evaluating skeletal muscle mass. Therefore, significant variations in HU attenuation would be unlikely.

Discussions such as this will hopefully deepen understanding of investigations of sarcopenia across various fields.

Conflict of interest

None.

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