Review of: "Reliability and validity of ultrasound to measure of muscle mass following allogeneic hematopoietic stem cell transplantation"

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Allogeneic hematopoietic cell transplantation (allo-HSCT) has a curative potential for malignant and non-malignant hematological diseases. In allo-HSCT recipients, sarcopenia, loss of muscle mass was shown to be an index for assessing pre-transplant status as well as predictor of overall survival and non-relapse mortality in the post-transplant setting. In this prospective observational study, authors aim to clarify the inter-rater reliability and validity of ultrasound rather than more sophisticated techniques (MRI, CT, BIA, DXA) for evaluating the patterns of change before and after allo-HSCT. Here, they suggest that ultrasonography is a valid and reliable method for assessing muscle mass in allo-HSCT recipients. They showed that the psoas muscle mass measured by CT was highly correlated with the thickness of the biceps, vastus intermedium and rectus femoris as well as the cross-sectional area of the geniohyoid-mylohyoid muscle complex by USG. Interestingly, unlike that steroid induced muscle atrophy occurs more frequently in lower limb muscles, this study found that the the thickness of the biceps muscle declined more sharply from days 30 to 90 than the vastus intermedius and rectus femoris muscle. The muscle atrophy was improved three months after allo-HSCT probably due to recipients' activities and nutritional intake. This study is a frontier to further studies to evaluate the muscle mass with USG and the prognosis in allo-HSCT.