Abstract Title: Detecting sarcopenia in cirrhotic patients assessed for liver transplantation

Madill J[1]; Meeks AC[2]; Sinclair L[3]; Brown C[4]; Teriaky A[5]; Al Judaibi B[6]; Qumosani R[7]; Hilwah M[8]; Alfawaz M[9]; Marotta P[10]
[1-2] Brescia University College, Ontario. [3-10] London Health Sciences Centre, Multi-Organ Transplant Program, Ontario [R]

Introduction: Current studies support the use of portable ultrasound (US) as a convenient, non-invasive method of assessing skeletal muscle mass [SMM] that demonstrates a high degree of accuracy, reliability, as well as test-retest reliability. Sarcopenia, defined as a loss of SMM and loss of skeletal muscle strength, has been associated with numerous poor transplantation outcomes including: increased infections; length of stay; and mortality. Research indicates a two-fold increase in mortality in sarcopenic liver cirrhotic patients, compared to non-sarcopenic patients, independent of liver dysfunction. Currently, the sodium model for end-stage liver disease [Na-MELD] score is used to stratify patients based on their risk of death while on the liver transplantation [LTx] waiting list. However, this scoring system does not incorporate markers of nutritional status, or SMM loss.
Objective: To determine if there is a relationship between nutritional status, low SMM and Na-MELD in cirrhotic patients awaiting LTx.
Methods: A prospective study from July 2016-current, using quadriceps muscle layer thickness [QMLT] measurements in a cohort of adult patients assessed for liver transplantation was undertaken. A portable ultrasound machine SONOSITE S-ICU was used to capture and measure QMLT. Patients were stratified as low Na-MELD and high Na-MELD score.
Statistical Analysis: Pearson Correlation, independent t-tests and Chi-square were used.
Summary of Results: Twenty six patients have been enrolled in the study. No significant associations were found using Pearson Correlation Coefficients. No difference was seen in QMLT [p=0.196] between low compared to high Na-MELD, but there was a difference in nutrition Scores between the two groups [p=0.001].
Conclusions: Preliminary results show that nutrition scores were impacted by Na-MELD, but no relationship was seen with QMLT, likely due to small sample size. Research is ongoing to increase sample size and patient outcomes.