Introduction

Lean body mass, defined as fat free muscle, is regarded as an important nutritional factor that predicts survival in the Haemodialysis (HD) population. Recently, there has been increasing interest in the utility and integration of patient reported outcome measures (PROMs) into clinical practice. EQ5D is a simple self-assessment tool of an individual’s ability in five domains: mobility, self-care, activities of daily living, and the presence of pain or anxiety and depression. We aimed to explore the relationship between EQ5D scores and Bio- impedance measured lean body mass (BIA) and by doing so, provide insight into the possible use of both measures in the future assessment patient well-being and quality of life (QOL).

Method

In October 2017, 40 chronic HD (18 female, 22 male) with a mean age of 67 years (range 35-84 years) completed a self-assessed 3-stem EQ5D. The composite EQ5D index was calculated from the score in the five domains. BIA was obtained post dialysis using the InBody S10 body composition analyser, using segmental analyses. Post- Dialysis Body weight was also obtained, to allow for calculation of % lean body mass (LBM).

Results

The mean index EQ5D score was 0.5 (range -0.07- 1). Mean BMI was 27.9 kg/m2 (range 20.1 -52.6). %LBM was calculated using bio-impedance measured skeletal muscle mass and the body weight. Percentage lean body mass averaged 34.2% (range 20-40). EQ5D index score correlated with %LBM (p<0 0.05, Figure 1) but not with BMI. BMI was negatively correlated with %LBM in our population (R2 of 0.58, p<0.05, Figure 2). Of the 5 domains of EQ5-D, mobility was significantly correlated with %LBM (p<0.05).

Conclusion

This small study demonstrates the use of both PROMs and BIA as useful measures of patient well-being with the potential for predicting longer term outcomes. Used longitudinally, this combination of parameters may prompt clinical and nutritional intervention in advance of deterioration in commonly used laboratory measurements. The absence of relationship between EQ5D and BMI, and the negative correlation between %LBM and BMI would suggest that BMI on its own should not be used as a parameter of well-being or nutrition in this population. It also highlights the potential benefit of interventions such as exercise that enhances mobility and lean muscle formation.



**Figure 1**

**Figure 2**