

The correlation between Quality of Life and Nutritional status as assessed by Multifrequency Bioimpedance Spectroscopy in peritoneal dialysis patients



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BACKGROUND

Malnutrition and hypervolemia is a major cause of poor quality of life (QoL) in Peritoneal dialysis (PD) patients. Multifrequency Bioimpedance Spectroscopy (BIS) is a validated method to assess nutrition and hydration status in PD patients. The information of bioimpedance parameters versus QOL aspect in PD patients is scanty known.

METHODS

In this cross-sectional study, BIS were measured by BCM-body composition monitor (Fresenius medical care), QoL were measured by WHOQOL-BREF questionnaire. The correlation between BIS profiles including extracellular water (ECW), intracellular water (ICW), fat tissue index (FTI), lean tissue index (LTI) and over hydration status (OH) to each aspect of QoL were analyzed by Pearson's linear correlation coefficient. $p < 0.05$ was considered as statistically significant.

RESULT

Forty-nine PD patients were enrolled in this study. Mean age was 54.6 ± 12.6 years. The mean dialysis time was 32 ± 9.8 months. Thirty-seven patients had total weekly $Kt/V \geq 1.7$. Ten patients were anuria. Hypervolemic state appeared in twenty-nine patients. We found the significant correlation between LTI with QoL in 4 domains; physical health, psychological, social relationship and overall QoL ($r = 0.49, 0.41, 0.41$ and 0.45 ; $p < 0.001, p = 0.004, p = 0.004$ and $p = 0.001$ respectively), whereas FTI was inversely correlated with QoL in physical health, social relationship and overall QoL ($r = -0.48, -0.42$ and -0.35 ; $p < 0.001, p = 0.004$ and $p = 0.015$ respectively) In additional, ECW:ICW ratio was inversely correlated with physical health and overall QoL ($r = -0.43$ and -0.30 $p = 0.03$ and 0.04 respectively). Charlson comorbidity index was not significantly correlated with QoL.

CONCLUSION

BIS is a practical and inexpensive method for evaluating nutritional and hydration status in PD patients. The higher LTI is correlated with better QoL. On the other hand, increased FTI and ECW:ICW ratio associated with worse QoL in PD patients.

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