

FMCC 21 - BODY COMPOSITION ANALYSIS IN CHRONICALLY VENTILATED PATIENTS: AN ADDITIONAL TOOL FOR WEANING PREDICTION

OBJECTIVE: Chronically ventilated patients have nutritional modifications during their hospital stay. These parameters may influence the weaning from the ventilator process. Bio impedance technique could assess in a repetitive way the body composition of these patients and their ability to be weaned.

SUBJECTS / METHODS: All the patients admitted to a rehabilitation geriatric center for weaning from the ventilator were included to the study. In addition to anthropometric, functional and laboratory parameters, body composition was evaluated using **multi-frequency bioelectrical impedance analysis (BIA) (Bodystat, QuadScan 4000, British Isles)** in the attempt to detect fluid, fat and lean mass variations. Weaned and non weaned patients were compared using chi-square test analysis and predictors for successful weaning were detected using one way ANOVA, independent samples test and test for equality of means.

RESULTS: **Four hundred eleven patients** were admitted between 2004 and 2007. Undernutrition was detected in 11.9%, normal BMI was present in 25.1%, 30.2% were overweight and 32.8% were obese. They were 75.6 ± 11.2 years old, weighted 71.8 ± 18.2 kg. Body composition was achievable and body composition was: Fat mass 24.6 ± 13.6 kg, lean body mass 47.2 ± 16.2 and extracellular water 40.6 ± 12.9 kg. 214 were weaned while 197 not. Predictor factors were number of ventilation days before admission ($p=0.05$), functional index before admission, presence of decubitus ulcers ($p=0.001$), APACHE II score on admission ($p=0.001$), fat free mass index (0.02) at admission and at discharge, ECW and lean body mass at discharge ($p<0.05$). **Loss of extracellular water was a strong predictive index** ($p<0.04$). Calorie intake, level of albumin or glucose were not predictive factors.

CONCLUSION: In addition to factors related to admission, modifications in body composition and **mainly decrease in extracellular water are associated with successful weaning and can be detected by body composition analysis.**

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