

ICCN Poster Presentations

Clinical nutrition: diagnosis and management

Body composition assessed by impedance changes very early with declining renal graft function

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Background: Kidney transplant (Tx) restores renal filtration, but it does not achieve the function of two native kidneys, and with time it may slowly involute back to chronic renal failure. We hypothesised that the study of body composition by bioelectrical impedance analysis (BIA) might highlight differences for body compartments among Tx with good, borderline and bad filtration rates.

Methods: Thirty Tx patients (19 males, 11 females) were studied at 62.4 ± 26.6 months post-surgery and divided into three groups depending on creatinine clearance (crCl): good (crCl > 65.0), borderline ($35.0 < \text{crCl} < 65.0$) and bad (crCl < 35.0). BIA was assessed three times in a year, and the hemodialysis (HD) group (n = 11) was evaluated both pre- and post-HD session. Total body water, extracellular water (ECW), intracellular water (ICW), Na:Ke exchange rate (Na:Ke) and phase angle were studied. A healthy group (n = 11) was studied too.

Results: BIA showed no differences between healthy controls and good Tx while both borderline and bad Tx presented a significantly higher ECW and Na:Ke and lower ICW than either good Tx or normal controls. Also, borderline and bad Tx was not different from pre-HD session.

Conclusions: A good graft kidney manages to restore and maintain normal body composition, overcoming potential CsA and corticosteroids side-effects. On the contrary, even at mild renal dysfunction level, a change in body compartments is already observed, which approaches the composition of chronic renal failure patients with further graft filtration deterioration.

Nutritional status and body composition evolution in early post-renal transplantation - is there a female advantage?

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Background: Chronic renal failure is associated with metabolic derangements, affecting protein, amino acids and lipids, and usually, these patients follow a restricted diet. Kidney transplant (Tx) patients enjoy a recovery of renal function, but their therapeutics may entail significant changes on general metabolism. We present the anthropometrics results during the first three months after successful Tx, for males and females, and we compared them with a healthy group.

Methods: Eighteen patients (11 males and 7 females) were studied. Anthropometry was assessed before Tx, at month 1 and at month 3 post-Tx. Body weight (Wt), body mass index (BMI), triceps (TSF), biceps (BSF), subscapular (SCSF) and suprailiac skinfolds (SISF), midarm circumference (MAC), midarm muscle circumference (MAMC), corrected arm muscle area (CT.AMA), total body muscle mass (MM), body density (D), fat-mass (FM) and fat-free mass (FFM) were studied. The healthy group was evaluated three times in a year interval.

Results: Pre-Tx, males presented lower Wt, BMI, TSF, BSF, SCSF, SISF, MAC, MAMC, CT.AMA, MM, FM and FFM than controls while females displayed no differences. By the third month, males showed only a partial recovery and females displayed higher TSF and SCSF than controls.

Conclusions: Uremic males before Tx displayed undernutrition indexes. During the first three months post-Tx males showed an incomplete recovery of anthropometric parameters. Quite differently, females started at pre-Tx close to normal, but they significantly increased body weight and fat content. We suggest that nutritional requirements post-kidney grafting may be significantly different in males as compared to females.