

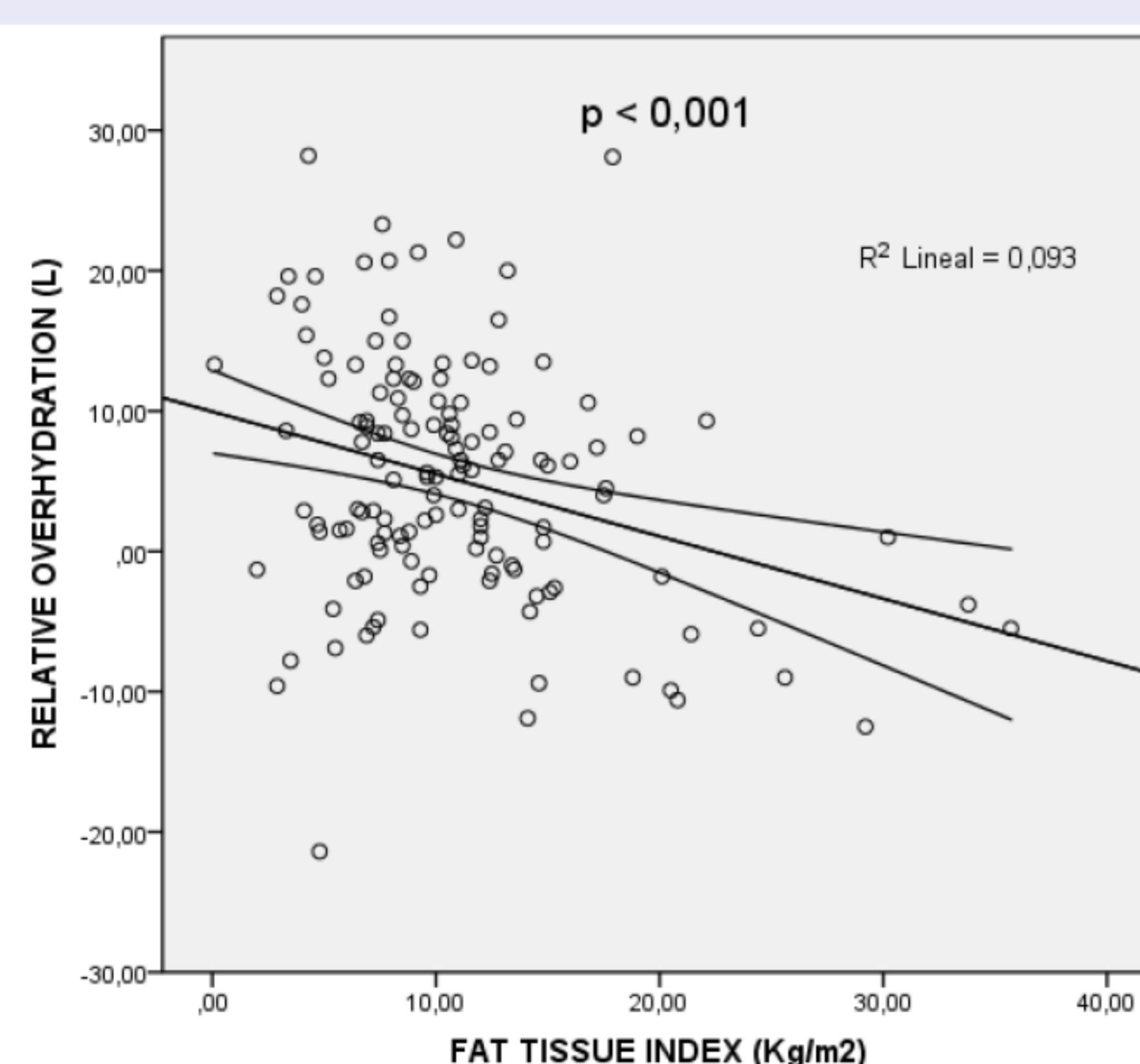
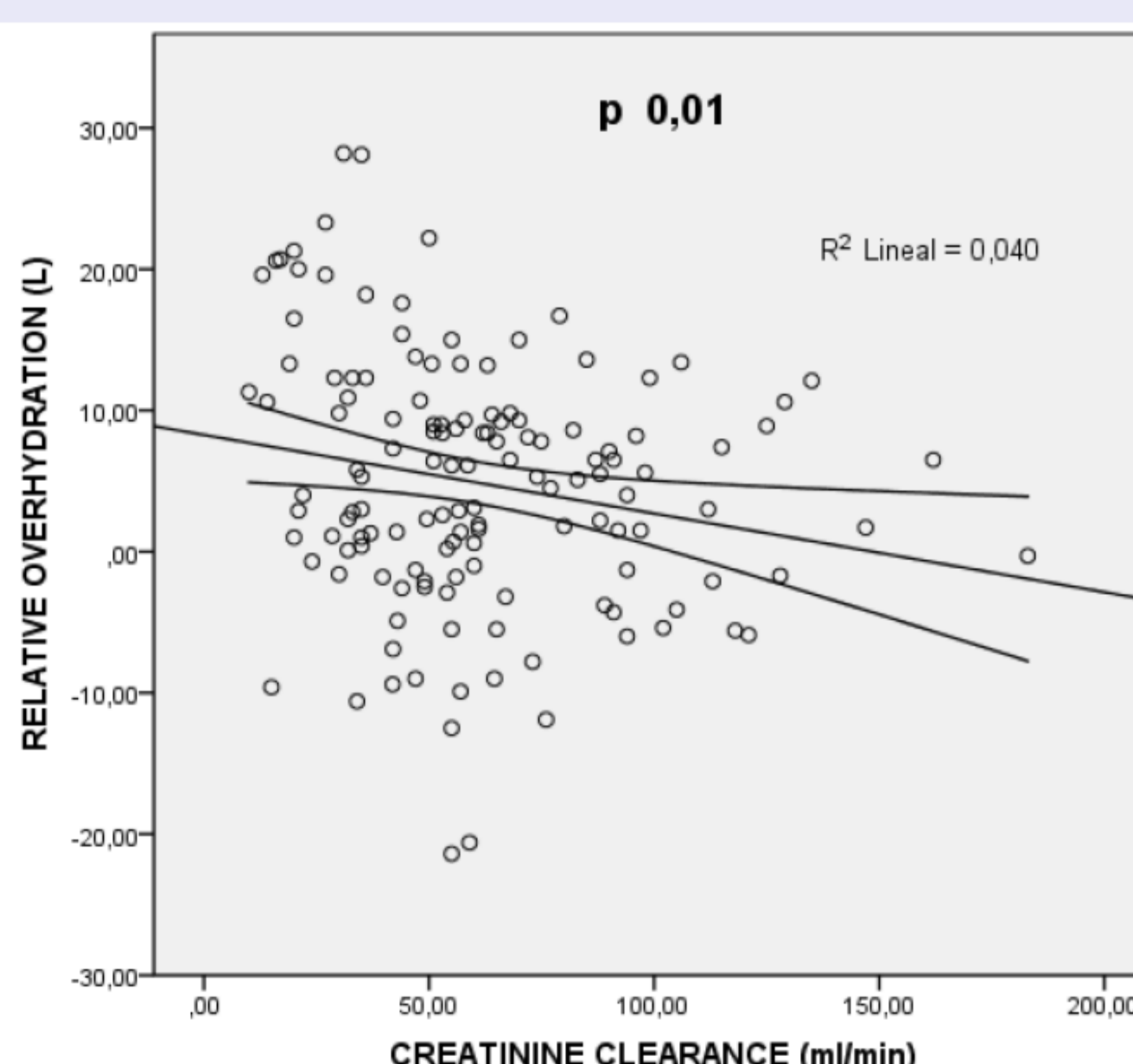
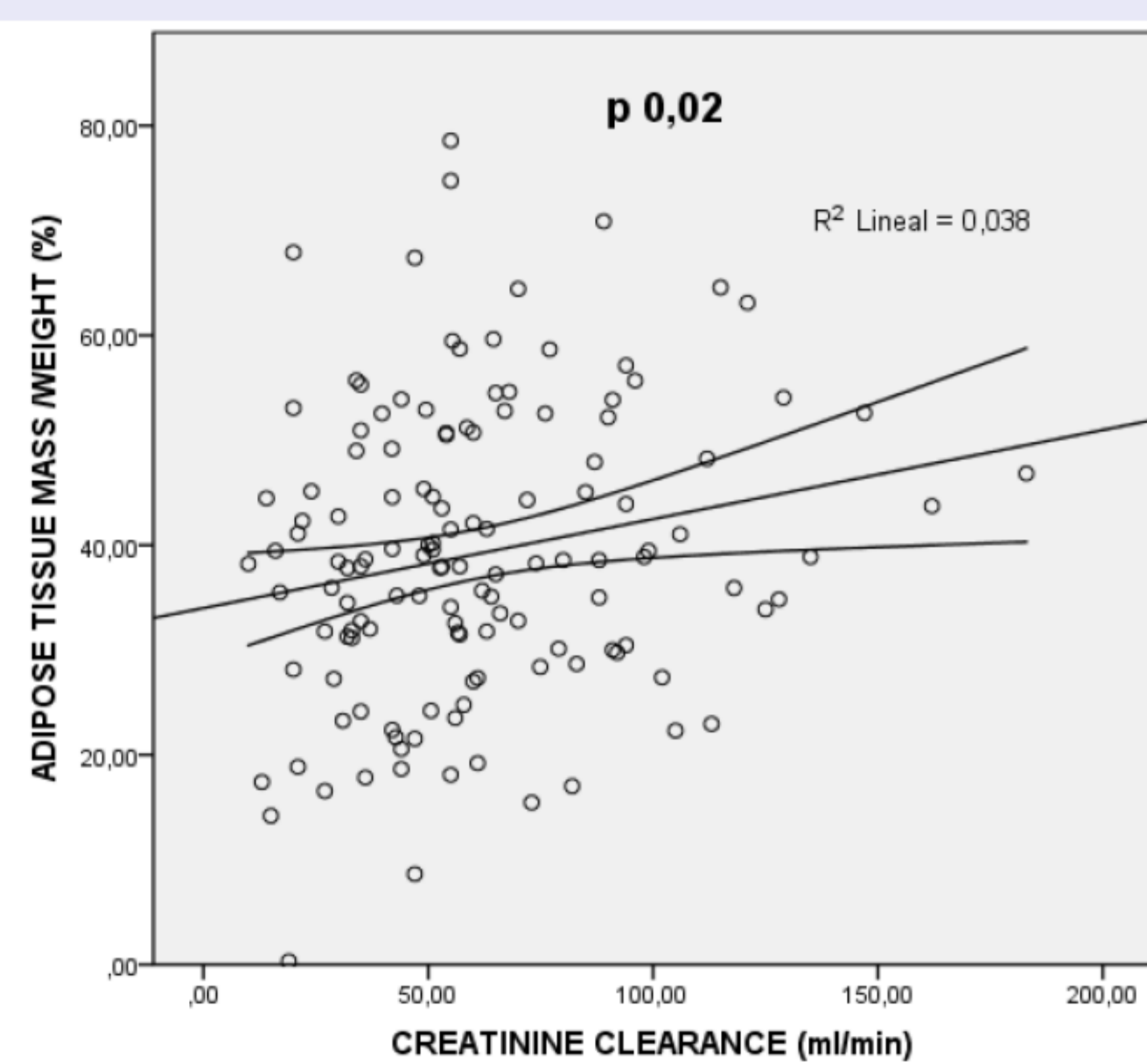
ANALYSIS OF CORPORAL COMPOSITION BY BIOIMPEDANCE SPECTROSCOPY IN KIDNEY TRANSPLANT PATIENTS

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OBJECTIVES

Kidney transplantation is often associated with weight gain, increased fat tissue and sometimes with metabolic syndrome. The objective of the study is to analyze the effect of renal transplantation on patient's body composition.



METHODS

This is a retrospective study in which we analyze a population of 169 patients with functioning kidney graft and a mean age of 56.3 ± 13.6 years, of whom 56.2% were male, 8.8% were diabetic and 21.4% had previously received another kidney transplant. 21% had had at least one episode of acute rejection and 27% were treated with ESAs. In 47 patients (27.8%), steroids were discontinued completely during the follow-up period. In all patients, we analyzed body composition using bioimpedance spectroscopy (BCM, FMC ®), collecting data on overhydration (OH) with respect to the water content of normohydrated tissues, total body water (TBW), extracellular water (ECW), and intracellular (ICW) as well as body composition data: lean mass (LTM) and adipose mass (ATM). Differences were calculated with respect to reference values adjusted for age, sex, body composition. Lean tissue (LTI) and fat tissue indexes (FTI) were calculated (kg/m²). Renal function is determined by the CrCl.

RESULTS

Patients had an average OH 0.91 ± 1.65 liters, equivalent to a state of relative overhydration (OH / ECW % 4.9 ± 8.9%). The OH is inversely related to the fat content (r = -0.305, p < 0.001) and CrCl (r = -0.20, p = 0.019), but unrelated to blood pressure. Patients exhibit a higher FTI 5.0 ± 5.8 Kg/m² with respect to reference values. Relative adipose tissue ratio (ATM / weight %) directly correlates with the CrCl (r = 0.196, p = 0.023), but is unrelated to the duration of steroid therapy. The FTI and adipose tissue differences with respect to the reference were significantly higher in patients in whom steroids had been withdrawn, which can be interpreted as a prescription bias in drug withdrawal. Decreased renal function is significantly associated with increased hydration (p = 0.015), higher systolic BP (p = 0.003) and lower fat mass (p = 0.023). We did not find differences in body composition when comparing between patients with or without previous acute rejection history.

CONCLUSIONS

We conclude that renal transplantation has an important impact on body composition, and is related to moderate hyperhydration and increased fat mass. Controlled studies are needed to assess possible interventions in order to modify these changes.

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