

P029 Protein oxidation status and total antioxidant capacity in patients with chronic renal failure

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Oxidative stress, caused by an imbalance between oxidants and antioxidants, is increased in patients with chronic renal failure. In this study we investigated the effects of hemodialysis (HD), peritoneal dialysis (PD) and transplantation on protein oxidation status and total antioxidant capacity (TAC). 20 patients on each treatment (HD, PD, transplantation) and 20 healthy individuals as control were included in this study. Plasma TAC, myeloperoxidase (MPO) activity, advanced oxidation protein products (AOPP), and protein carbonyl groups (PCO) were detected using spectrophotometric methods. In HD patients during the treatment MPO, AOPP and PCO levels significantly increased, and TAC values decreased as compared to controls. In PD patients, after treatment MPO and AOPP levels significantly increased, whereas there were no noteworthy differences in plasma TAC and PCO levels. In transplanted patients, MPO levels significantly increased, without any change on other parameters. Our results suggest that HD and PD treatments contribute to oxidative stress; furthermore, oxidative stress is augmented in HD treatment more than PD. As expected, we detected HD treatment reduces plasma total antioxidant capacity. Importantly, for the first time we showed that plasma MPO levels increased in transplanted patients.