Abstract

Introduction: High-protein (HP) diets might affect renal status. We aimed to examine the effects of a HP diet on plasma, urinary and morphological renal parameters in rats. Material and methods: Twenty Wistar rats were randomly distributed in 2 experimental groups with HP or normal-protein (NP) diets over 12 weeks. Results and discussion: Final body weight was a 10% lower in the HP group (p < 0.05) whereas we have not observed differences on food intake, carcass weight and muscle ashes content. No significant clear differences were observed on plasma parameters, whereas urinary citrate was an 88% lower in the HP group (p = 0.001) and urinary pH a 15% more acidic (p < 0.001). Kidney wet mass was ~22 heavier in the HP group (p < 0.001). Renal mesangium area was a 32% higher in the HP group (p < 0.01) and glomerular area a 13% higher (p < 0.01). Conclusion: High-protein diet promoted a worse renal profile, especially on urinary and morphological markers, which could increase the risk for developing renal diseases in the long time.

Keywords