

ABSTRACT

Adverse Event of Long-Term Ketogenic Diet in Serum Creatinine Levels as Biomarker of Kidney Function in Mice

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Background: In recent years, ketogenic diet has become a choice not only for overweight or obese people to lose weight, but also for healthy people to maintain health. However, the adverse events of long-term ketogenic diet in kidney are not very clear. The aim of this study was to determine the long-term effect of ketogenic diet on serum creatinine as a biomarker of renal function.

Methods: Eighteen male mice (20-30 g) aged 2-3 months were divided into two groups: K1 (standard diet; n=9) and K2 (ketogenic diet; n=9) were given diet for 8 weeks *ad libitum*. Body weight were measured in pre and post-intervention, serum creatinine levels were measured post-intervention. Serum creatinine levels were measured using a colorimetric assay. Data were analyzed for normality test, independent t-test, and Mann-Whitney using SPSS.

Results: Δ Body weight on K1 (17.000 \pm 7.089) g, K2 (5.222 \pm 4.549) g with p=0.002. Serum creatinine levels on K1 (19.958 \pm 4.458) μ g/mL, K2 (27.835 \pm 7.918) μ g/mL with p=0.019.

Conclusions: Long-term ketogenic diet increase serum creatinine levels and induced slower body weight gain.

Keywords: *ketogenic diet, kidney, long-term, mice, serum creatinine*