Abstract

Nonalcoholic fatty liver disease (NAFLD) is the most common form of chronic liver ailment characterized by the excessive accumulation of fat in the liver. Nonetheless, a well-defined animal model is essential for gaining a deeper comprehension of the causes, mechanisms and development of NAFLD. The target of this study was to establish a rat model for NAFLD with steatosis, achieved through a HFD. Thirty Wistar rats, comprising 15 males and 15 females were randomly allocated into five groups. There are two control groups as negative and positive control, remaining were the experimental groups. Three distinct high-fat diets were given to experimental groups: ghee based HFD, oil based HFD and ghee + oil based HFD. Negative control group was maintained on normal chow while the positive control group was given no fat diet. At the termination of the trial period, rats were dissected and serum chemistry parameters including liver function tests (LFTs) and lipid profile (TC, TG, HDL, LDL, and VLDL) were evaluated. To analyze the organ function, histology of liver tissue was also done. Results revealed a noteworthy increment in Serum ALT and AST level of experimental group rats. Additionally, there was also a rise in the level of serum TG, TC, LDL, VLDL, with the decline of HDL in the HFD fed rats group as contrasted with control group. It was found that body weight and liver weight also rose in all the experimental groups. Furthermore, histological examination revealed accumulation of huge fat droplets in HFD given Rats which is linked with NAFLD.