Author:

Abstract:

The objective of this study was to identify the role of leptin in increasing bone density. A post test only design study involving 32 female Wistar strain rats of 4 month-old as samples. These experimental animals received the following treatments: (1) 8 rats received standard amount of feeding for 2 months, (2) 8 rats received feeding 10% less than the standard amount for 2 months, (3) 8 rats received feeding 10% more than the standard amount for 2 months, (4) 8 rats received feeding ad libitum for 2 months. At day 60, 1.5 cc of blood was taken intracardially for leptin level examination using Elisa, followed with bone density examination in the metaphysical part of femoral bone using Ultrasound DBM Sonic 1200. Results showed that rats receiving 10% less than standard feeding had significant (p ≤ 0.05) leptin lower concentration from those of other treatments. Leptin level of rats receiving 10% less than standard feeding was the lowest as compared to other treatment, while the leptin levels of rats receiving standard feeding, 10% more than standard, and ad libitum were not significantly different (p ≥ 0.05). On bone density, rats receiving 10% less than standard feeding had the lowest bone density, and the density increased consecutively in rats receiving standard, 10% more, and ad libitum feeding. This indicates that increased bone density corresponds with increasing leptin level in rats. The higher the leptin level, the greater the increase of bone density.

(end)