## EVALUATING THE MORPHOLOGICAL CHARACTERISTICS AND VISCERAL FAT OF MALE MICE GENERATED OBESITY MODEL BY A HIGH-FAT DIET

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## ABSTRACT

**Background:** Obesity is a global health issue caused by consuming too much energy compared to the body's needs, which negatively impacts almost every organ of the body. As a result, generating an experimental obesity model is critical for researching new drugs to improve obesity and its consequences. **Objectives**: Generating obesity model of male mice over a 6-week period of feeding by a high-fat diet. **Materials and methods**: In this experimental research, 24 male mice (Swiss albino) of 3,5 weeks old were divided into 2 groups, each containing 12 mice: control group fed by a normal-fat diet (NFD) and obesity group fed by a high-fat diet (HFD) in a period of 6 weeks. Evaluation was conducted at the beginning of research, every 7 days and at the end of the study. **Results**: The mean of body weight, weight gain, body length, body mass index (BMI), chest and waist circumference of HFD group had a statistically significant difference from the end of week 2. The morphological difference was more remarkable at week 3 (p<0.001). After 6 weeks of study, the weight gain rate of HFD group was 131.32% higher than the NFD group. It was also noticeable that the weight of omental fat and renal fat (both sides) in the HFD group was significantly higher than that of the NFD group (p<0.001). **Conclusions**: Research has successfully generated an obesity model in male mice after a period of 6 weeks by a HFD (640Kcal/100g, 52-53% lipid).

Keywords: Swiss albino, male mice, obesity, high-fat diet.