

Abstract

The present work conducted to determine the histological and physiological alterations in certain organs of males and females' white mice after Treatment with saccharin and stevia as sweeteners. The mice under study was brought out from Baghdad health and drugs center. The experimental animals were divided into three main groups for each sex of animals. The male experimental groups which included A1, B1, and C1. Group A1 as a control, group B1 as treated group with saccharin, while group C1 consider treated group with stevia. The female experimental animals were divided in the same way as the male groups A2, B2 and C2 each group composed of twenty mice. All experimental animals housing in Animal House of science college in AL-Muthanna university, all environmental conditions were under control. The study noted important changes after treated with saccharin (0.5g/ml) and stevia (0.8g/ml) for 30 days orally administration. The histological parameters which included tissue sections from Pancreas, Thyroid gland, and Brain, while the biochemical tests assessed the level of Glucose, T3 (Triiodothyronine), T4 (Thyroxine) in the serum of experimental animals. Pancreas gland in both male and female groups after treated with saccharin showed prominent histological changes and showed clear pathological lesions in deferent locations of pancreas gland, while the histological result of Pancreas gland in both sex of experimental animals after treated with stevia didn't showed any prominent changes in cellular structures of islet of Langerhans, the histological changes of pancreas gland after treated with stevia have normal cellular structures in islets of Langerhans without main histological effects. The thyroid gland in both male and female after oral administration with saccharin have been noticed significant histological differences in most tissue field of thyroid gland, when compared with control group. While the histological outcomes after administering of stevia displayed a slightly significant in histological structures of thyroid gland, the most tissue sections were similar to control group. Brain tissue sections have prominent effects after treated with saccharin solution in both sexes, while the histological findings after treated with stevia in male and female treated groups were something's similar to control. The glucose, T3, and T4 values have significant differences in treated group with saccharin while didn't have significant differences in treated group with stevia compared with control group. So, the level of Glucose, T3, and T4 have significant differences when compared between two treated groups.