

البحث الاول

Comparing Between The Toxic Effect of Sucralose and Stevia on Albino Rats

Author: Heba H Rohym

Published date: January 2017

the 2 nd Annual Middle East Conference of the International Association of law and Forensic Science)

Abstract

Background: sweeteners can be natural, such as stevia, or synthetic, such as sucralose. Sweeteners are used to aid with weight loss and oral hygiene. Artificial sweeteners have been linked to a number of health issues, including cancer and hypoglycemia. Natural sweeteners are generally safe, although they might cause issues like tooth decay and poor nutrition. The goal of this study is to compare the effects of sucralose (artificial sweeteners) and stevia (natural sweetener) on albino rats after repeated administration (natural sweeteners). **Methods:** Samples of sucralose and stevia were administered once daily subcutaneously. After 2 weeks the rats were anesthetized by ether inhalation and blood samples were obtained from all rat groups. Then samples of blood were collected for blood count assay. Immediately after blood collection, the animals were dissected liver were got out from all rats and examined. **Results:** sucralose showed reduction in hemoglobin, RBCs count and hematocrit in large doses. Rats supplemented with stevia showed no significant reduction in hemoglobin, RBCs count and hematocrit in all groups. Rats supplemented with 5.625 mg/kg sucralose exhibited significant reduction in WBCs count. While there were insignificant changes in all stevia groups treated with it. Microscopical examination of liver of rats administered sucralose with 5.625 mg/kg showed slight hydropic degeneration of hepatocytes, while there were insignificant changes in all stevia groups.

Conclusion: Sucralose exhibited significant reduction in hemoglobin , RBCs count ,hematocrit and WBCs count in high dose only. Sucralose induced significant hepatic cellular changes only in high dose only. Stevia groups showed no hepatic cellular changes. Stevia is more safe than Sucralose.