

**BIOCHEMICAL STUDIES OF SOME
FUNCTIONAL FOOD EFFECTS ON
HYPERGLYCEMIC/HYPERLIPIDEMIC RATS
TREATED BY AFLATOXIN**

By

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THESIS

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ABSTRACT

Increased unhealthy lifestyle and environmental pollution exposure to aflatoxin which have a role in the increased of diabetes mellitus type 2 (DM). Both DM and aflatoxicosis on reproduction urging of various function food for protection. This study investigates the effects of a diet containing Egyptian radish microgreen , Egyptian clover microgreen and Egyptian barley microgreen (ERM, ECM and EBM) against diabetes induced by streptozotocin (STZ) 30 mg/kg with/ or without aflatoxin 30 µg/kg administration in rats. Ninety six male albino rats were randomly assigned into 16 groups “6 rats each”, the experiment was ended after 6 weeks. Proximate analysis, elements, vitamins, antioxidant capacity, amino acids, phytochemical, complete blood lipid profile, liver and kidneys functions, oxidative stress, sperm analysis, chromosomal aberration and testis were determined. Histopathological examination of liver, kidneys, pancreas, brain and testis were performed. The intoxicated rats showed disturbance in the all above parameters, that STZ and aflatoxin induction induced harmful effects. The semi-modified diets with ERM, ECM and EBM decreased. This harmful and improved the disturbed parameters values such as complete blood , lipid profile, kidneys; while liver functions, oxidative stress, sperm analysis, testis system and chromosomal aberration; blood picture was unchanged relative to normal healthy control. The results of histopathological examination of liver, kidneys, pancreas, brain and testis are in agreement with the biochemical results and are in the same trends, that the semi-modified diets improved the abnormal results of STZ and aflatoxin harmful

Key words: Aflatoxin, diabetes, insulin, chromosomal aberration, sperm analysis, histopathological examination.

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