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Comparative *in vivo* antidiabetic evaluation of Glimepiride, Fenugreek and their combination in Streptozotocin induced diabetic rats

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Diabetes mellitus is chronic metabolic disorder. These metabolic disorders result from a deficiency of insulin or from insulin resistance. The hypoglycemic activity of glimepiride (Amaryl) relied on its ability to enhance insulin release and action. Fenugreek seeds (*Trigonella foenum graecum*) are known to have hypoglycemic activity. The aim of this study is to evaluate the possible interaction between amaryl and fenugreek aqueous extract on Streptozotocin induced diabetes in male albino rats. Male Albino rats were randomly divided into five groups; Group 1: (control group), Group 2: (diabetic group), Group 3: (diabetic treated with amaryl only), Group 4: (diabetic treated with aqueous extract of fenugreek) and Group 5: (diabetic treated with both aqueous extract of fenugreek and amaryl). Medications were administered orally for 8 weeks. The weight and the random blood sugar levels of the rats were measured during the experimental and at the end of the experimental, then rats were sacrificed for investigation of histological studies for kidney, pancreas and testes, hematological and biochemical assessments. The results showed a significant increase in body weight of group 5. It provided a significant protection to the altered hematological variables, decrease of the random blood sugar levels (near normal), and elevation of the insulin concentration. The levels of the total protein and albumin in group 5 were near to the control group values. In addition, it also showed significant decrease in serum total cholesterol, triglyceride, LDL and ratio cholesterol/HDL levels. It also showed decrease in urea, creatinine and uric acid levels, improving the ALT, AST and ALK. The finding of this study indicates significant decrease in the concentration of Malondialdehyde (MDA) and Myeloperoxidase (MPO) in pancreas homogenates of group 5. These results reveal that combination of both aqueous extract of fenugreek and glimepiride gives better results than each drug alone.

Biography

Hala H Zaatout is an Egyptian PhD holder. She has completed her PhD from Alexandria University. She has published 6 papers in peer reviewed journals. She participated in several international conferences with various scientific posters.

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