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Antihyperglycemic potential of (2E)-3-Phenyl-1-(3-pyridinyl)-2-propen1-one in alloxanized hyperglycemic rats

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Abstract

Diabetes mellitus is a life threatening disorder due to defects in insulin secretion, action or both. The present study was designed to explore and evaluate the antidiabetic activity of synthetic derivative of chalcone named (2E)-3-Phenyl-1-(3-pyridinyl)-2-propen1-one. In this study, fifty albino rats were divided into five groups, each containing ten rats. Diabetes was induced by single administration of alloxan monohydrate intraperitoneally (130mg/kg). After induction of diabetes, group 1 was marked as negative control, group 2 as diabetic group, and group 3 was treated with synthetic antidiabetic drug glibenclamide (10mg/kg). Group 4 and group 5 were treated with graded doses (5ml/kg and 10ml/kg) of synthetic research compound respectively.Treatment continues for whole month. Physical parameters were recorded during parameters. After four weeks of treatment, and all groups were subjected to decapitation. Serum and tissues samples were collected. Serum analysis was performed. Resulting data was investigated and subjected to ANOVA and DMR. Histopathalogical examination was conducted and photomicrographs were investigated. On the basis of histopathological and biochemical analysis, it is concluded that chalcone derivative possess strong antioxidant and antihyperglycemic activity. Statistical report of data confirmed that results are significance ($P<0.05$).

Keywords: