

REDUCTION ON FASTING SERUM INSULIN CONCENTRATION DURING NEW THIAZOLIDINEDIONE DERIVATIVE TREATMENT IN HYPERLIPIDEMIC FED MICE

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In rodents and humans, dietary intake of high amounts of fat has been shown to have adverse effects on insulin sensitivity. Thiazolidinediones (TZDs) are pharmacologic agents that improve glucose homeostasis in type 2 diabetes by increasing insulin sensitivity. In the present study, it was evaluated the effect of therapy with new (TZD) derivative: 3-(4-methyl-benzyl)-5-(4-dimethoxy-benzilidene)-thiazolidine-2,4-dione (GQ5) (10mg/Kg/day; for 16 days) on serum insulin concentration from mice with hyperlipidemia induced by diet. To validate the experimental model, a hyperlipidemic group and normolipidemic group both treated with vehicle (CMC), were adopted. After 75 days of feeding diet, fasting serum insulin levels, were significantly ($p < 0.05$) increased in comparasion to data before feeding diet. In comparasion with CMC-treated hyperlipidemic group, significant ($p < 0.05$) decrease (57%) on fasting serum insulin levels, was obtained from GQ5 treated group. Futhermore, considering the insulin level before and after GQ5 treatment, in the same group of mice, was significantly ($p < 0.05$) reduced by 85%. Insulin level from normolipidemic treated with (CMC) group was unchanged. These results indicate that GQ5 contribute to improve glucose homeostasis by changes in insulin clearance.

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