Tabriz University of Medical Sciences

Faculty of Medicine

A Thesis Submitted For Specialty Degree In Internal Medicine

Effects Of Pantoprazole On Serum Glucose Level In Type Two Diabetic Patients

Dr. Mohammah Hasan Omidvar

Supervisor:

Dr. Farzad Najafi Pour

October 2014

Thesis No:

Effects Of Pantoprazole On Serum Glucose Level In Type Two Diabetic Patients

Farzad Najafi Pour, Mohammah Hasan Omidvar

Department of Internal Medicine, Imam Reza Teaching Hospital, Faculty of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran

Abstract

Introduction: Type II diabetes is a heterogeneous and complex combination of metabolic condition caused by high levels of blood glucose and insulin resistance or insulin deficiency. Some studies suggest the increased levels of gastrin following the administration of PPIs who seek to improve glycemic status and increased pancreatic insulin content. The purpose of this study was to determine the effect of Pantoprazole on glycemic control in patients with type II diabetes.

Method: In this double-blind clinical trial, 40 patients with type II diabetes under treatment with oral hypoglycemic drugs and HbA1C levels less than 8.5% were evaluated in two group (each with 20 patients). Patients were treated for 12 weeks with placebo or 40 mg Pantoprazole tablets twice a day. Glucose, HbA1C, insulin and gastrin levels, before and after treatment, were measured.

Results: The mean fasting blood glucose at baseline in the intervention and control groups was 164.6 ± 11.3 and 138.5 ± 4.6 mg per deciliter respectively and at the end of intervention was 126.5 ± 3.8 and 151.2 ± 9.4 mg dl. In the within group analysis, the lower the blood glucose in the intervention group and increased in the control group was seen. The within group changes in the intervention group was statistically significant (P = 0.001). The statistical analysis between groups after intervention showed a significant differences (P = 0.02). HbA1C reductions in the intervention and control groups in the study was 5.12% and 10.25%, respectively, but decreased in the intervention group was statistically significant (P = 0.01). Mean 2hpp in the intervention and control groups at baseline was 233.5 ± 15.9 and 189.1 ± 13.01 mg dL respectively and at the end of

the intervention was 162.1 ± 7.6 and 203.8 ± 13.2 mg dL. In the group, 2hpp reduction in the intervention group and increased in the control group. The intragroup changes in the intervention group was statistically significant (P <0.0001). In the intervention group, in the end, the two groups were statistically significant differences (P = 0.009). Mean plasma insulin levels before the intervention and control groups, respectively, versus 8.1 ± 1.2 and 9.9 ± 2.4 μm / ml and after the intervention to 10.2 ± 1.3 and 10.7 ± 1.4 μm / ml, respectively. After the intervention in both groups there was an increase in insulin levels (20.5% and 8.08% in the intervention and control groups, respectively), but this increase was statistically significant in the intervention group (P = 0.003).

Conclusion: Based on our results, consumption of Pantoprazole by reduction in fasting blood glucose, 2hpp and HbA1C and increased levels of insulin and gastrin, have a positive effect on diabetes type two. Therefore, in this study, we recorded a significant effect of taking Pantoprazole in patients with diabetes type two.

Keywords: Type II Diabetes, Pantoprazole, Fasting Blood Glucose, Gastrin, Insulin