

Master Thesis Summary

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“Effect of Glycemic Control on Cardiovascular Dysfunction and Oxidative Stress in Type 2 Diabetes”

The present study was conducted firstly, to evaluate whether an intensive glycemic control may improve both endothelial dysfunction (i.e. ADMA levels) and oxidative stress in type 2 diabetic patients with or without hypertension. Secondary, to assess the role of blood pressure regulation using ACE inhibitors on modulating endothelial dysfunction and oxidative stress in hypertensive diabetic patients.

The current study was conducted in the Out-patient Clinic of Beni- Sueif University Hospital and comprising 90 subjects; 72 patients with type 2 diabetes along with 18 healthy control volunteers.

Inclusion criteria for patients enrolled in the study included the following: age between 40-70 years; receiving stable antidiabetic therapy (sulfonylurea, metformin and/or insulin) for at least 6-8 months and no history of ketoacidosis. In hypertensive diabetic patients submitted to the study, the antihypertensive treatment was ACE inhibitors for at least 6-8 months.

Exclusion criteria included the following: clinically significant hepatic, neurological, endocrinologic or other major systemic diseases, such as malignancy; elevated plasma transaminases activities over twice the upper normal limit; elevated plasma creatinine concentration (> 1.7 mg/dl); acute major cardiovascular events in the previous 6 months; acute illnesses; current evidence of acute or chronic inflammatory diseases and hormone replacement therapy for women subjected to the study. Exclusion criteria also included anemia, hyperbilirubinemia, treatment with glucocorticoids, antineoplastic agents, psychoactive agents, bronchodilators, statins or vitamin supplements. The patients enrolled in the present study were classified into the following groups according to presence or absence of hypertension and glycemic control where the patients were subdivided into good glycemic control ($HbA_{1C} \leq 7.0$ %) and poor glycemic control ($HbA_{1C} > 7.0$ %) along with normal subjects: