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**The effect of captopril and amlodipine on
blood pressure , Serum glucose and renal
function in type II diabetic hypertensive
patients**

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Abstract

The study was conducted on 100 hypertensive type 2 diabetic patients. They were divided into two groups each of 50 patients . Group 1 kept on captopril therapy , doses 25 to 50 mg , 2 to 3 times daily , aged 40 – 73 years and group 2 kept on amlodipine therapy , doses 5 to 10 mg as a single daily dose , aged 40-68 years . The study aimed to investigate the effects of captopril and amlodipine on blood pressure , serum glucose concentration and renal function .

Thirty apparently healthy individuals participated in the study as a control group . Ages ranged from 38 to 75 years .

Blood samples were obtained from patients and controls after 12 hours of fasting . The serum obtained from the blood was used for the estimation of glucose , urea and creatinine concentration .

Blood pressure was measured by using standard mercury sphygmomanometer before drug administration and after 8 weeks of treatment with captopril or amlodipine . Glucose concentration were measured by glucose – oxidase – peroxidase colorimetric method . Serum urea was estimated by ureas – modified Berthelot reaction and serum creatinine concentration by the picric acid and sodium hydroxide method . Creatinine clearance was calculated by using Cockcroft and Gault equation.

Data obtained from the study revealed a significant reduction of blood pressure after therapy with captopril and amlodipine . The percentage of patients achieved normal blood pressure was 70% in the captopril group and was 76% in the amlodipine group for the systolic BP and was 72% in the captopril group and was 66% in the amlodipine group for the diastolic blood pressure .

Non significant differences were obtained between the two groups regarding the reduction of BP after therapy or between the percentage of patients achieved normal BP in the 2 groups .

A significant reduction of glucose , serum creatinine concentration and a significant elevations of creatinine clearance were obtained after therapy with captopril or amlodipine . No statistical difference were obtained between the 2 drugs regarding reduction of serum glucose and serum creatinine concentration or elevations of creatinine clearance after therapy with captopril or amlodipine .

The study concluded that the 2 drugs are with beneficial effects on serum glucose concentration and kidney functions . They are a suitable antihypertensive agents in diabetic patients with hypertension as they possess no harmful effects on glucose concentrations and kidney function .