

Does Glycemic Control Reduce Cardiovascular Complications

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Objective: To evaluate the association between glycemic control and hypertensive crisis.

Design: A Cross Sectional Study.

Setting: Cardiology Unit, Salmaniya Medical Complex.

Method: One hundred forty-five patients with diabetes mellitus, above 18 years admitted from 1 June 2010 to 31 December 2010 for a hypertensive crisis were reviewed. A control group consisted of 145 diabetic patients, age and sex matched, without hypertensive crisis were recruited for the study. A hypertensive crisis is classified into urgency or emergency, based on the absence or presence of acute target organ involvement. Glycated hemoglobin (HbA1c) level of ≤ 53 mmol/mol is the threshold for good glycemic control. The relationship between various clinical presentation and HbA1c was assessed.

Result: One hundred forty-five were reviewed, 87 (60%) were males and 58 (40%) were females. Twenty-six (18%) of the crisis group had HbA1c of ≤ 53 mmol/mol; 75 (52%) of the control subjects had HbA1c < 53 mmol/mol, (P value ≤ 0.0001). Among the hypertensive crisis group, the rate of hypertensive emergencies, 84 (58%), was greater than those of hypertensive urgencies, 61 (42%). Left ventricular failure (LVF) was the most common clinical presentation. Poor glycemic control was closely related to hypertensive emergency (P value = 0.042). Patients with HbA1c < 53 mmol/mol had lower rates of hypertensive emergencies than those with HbA1c > 53 mmol/mol, 11 (42%) and 75 (63%), respectively.

Conclusion: It was found that hypertensive patients with good glycemic control are at a lesser risk of getting emergency hypertensive crisis.

Controlling diabetes may confer protection against hypertensive crisis and in particular, emergencies and the related cardiovascular complications.

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