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EFFECT OF QUINAPRIL ON MYOCARDIAL PERFUSION IN TYPE 2 DIABETES MELLITUS

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BACKGROUND/AIMS. It is estimated that micro- and macroangiopathy in type 2 diabetes mellitus (T2DM) results from dysfunction of blood vessel endothelium. Improvement of endothelial function occupies one of the central positions in T2DM management, as it permits reduction of morbidity and mortality rates. The aim of this work was to study effects of quinapril on myocardial perfusion in T2DM.

METHODS: We investigated 11 normotensive males (range 55.27±9.28 yrs) with T2DM besides heart attack Myocardial blood circulation was studied with the use of single photon emission computer tomography **(SPECT**) prior to and 6 months after treatment initiation. Two global perfusion indices were used: SSS (summed stress score) and SRS (summed rest score). We studied also the endothelial vasodilatation factor NO. NO was measured in venous blood prior to and 6 months after treatment initiation.

RESULTS: At 6 months following treatment initiation, the concentration of NO had doubled. Examinations at 6 months using SPECT showed improvement of myocardium perfusion. At rest, an average improvement of 25% to 30% was registered in 9 cases (81.8%). Stress SPECT revealed improvement in perfusion in 9 cases (81.8%) by 20%.

DISCUSSION/CONCLUSION: We may assume that such amelioration of perfusion is related to the improvements in endothelial function caused by the treatment with quinapril. Correlation between the changes in the perfusion scintigraphy indices and increase in NO in these patients support the assumption (r = 0.457). Moreover, all factors that can positively affect myocardial perfusion independently of quinapril were excluded.

Thus, quinapril improves endothelial function and consequently ameliorates myocardial perfusion in T2DM.

Keywords: Quinapril, myocardial perfusion, type 2 diabetes mellitus