Abstract

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The study of endoglin expression in normocholesterolemic and hypercholesterolemic mice

Diploma thesis

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Background: We studied the changes of expression of endoglin in normocholesterolemic and hypercholesterolemic mice. The changes of endoglin expression were detected in aorta by means of imunohistochemical methods and followed by quantification by Western blot analysis.

Methods: We used 8 female normocholesterolemic mice C57BL/6J and 8 female ApoE deficient mice C57BL/6J. ApoE deficient mice were fed during a 8 weeks by chow diet with 1% of cholesterol. Biochemical analysis of blood samples was performed. Then we prepared cuts of aorta with segment of semilunar valve for immunohistochemical analysis. Detection of expression of the endoglin was performed by Avidin- Biotin method (ABC) with detection by DAB.

Results: The expression of endoglin was detected only on endothelium of normocholesterolemic mice. The expression of endoglin in apo-E deficent mice was detected on endothelium of atherosclerosis plaque, aortic semilunar valves and also in endothelium with no qtherosclerosis and in capillaries in myocardium. The stronger expression of endoglin was visible in Apo-E deficient mice when compared with normocholesterolemic mice. The Western blot analysis confirmed significant increase fo endoglin expression in hypercholesterolemic Apo-E deficient mice.

Conclusions: We propose that higher expression of endoglin in hypercholesterolemic might be considered as potencional protective reaction of endothelium in early atherosclerosis suggesting role of endoglin in early atherogenesis.