Abstract

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Immunohistochemical analysis of the expression of markers in experimental hypertension.

Bachelor thesis

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Background: We observed the expression of intercellular adhesion molecule (ICAM-1) in the right femur arteries of spontaneously hypertensive rats (SHR) and Wistar Kyoto (WKY) rats with regard to the administration of sunitinib.

Methods: We used the male of SHR and WKY rats. Each strain of the rats was divided into two groups. Each of groups were divided into two subset. One of subset received sunitinib and the second, control subset, which received only water. SHR were treated by sunitinib in the following chart: 8 weeks treatment/5 weeks pause/8weeks treatment. WKY rats were treated by sunitinib only in fhe following chart: 8 weeks treatment/ 5 weeks pause/8 weeks treatment, because signs of toxicity were appeared. After that immunohistochemical analysis of segments of right femur arteries were executed. Detection of expression of ICAM-1 was performed using the method of En Vision with detection using DAB.

Results: We performed the immunohistochemical detection of ICAM-1 in 120 slides. In the some of them we found no expression of ICAM-1 regardless to subset of testing animals. In 2 animals in each of groups we observed of poor expression, but this expression was very weak and it was situated on individual of endothelial cells. Finally we did not approach to quantitative of immunohistochemical staining for poor expression.

Conclusions: In hypertensive and normotensive rats the treatment by sunitinib did not induce immunohistochemically detectable endothelial dysfunction represented by changes of expression ICAM-1 in right femoral arteries. ICAM-1 expression was very low at all of animal groups. The treatment by sunitinib in SHR and WKY rats did not have influence to expression of ICAM-1.