

ABSTRACT

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Title of diploma thesis: **Vascular reactivity of carotid and renal arteries to natriuretic peptides: alterations due to diabetes**

Diabetes is associated with increased prevalence of hypertension, cardiovascular and renal disease. Atrial natriuretic peptide (ANP) and B-type natriuretic peptide (BNP) play an important task in cardiovascular pathophysiology and are considered to have cardioprotective and renoprotective effect in patients with diabetes.

The aim of this work was to study the response of rabbit carotid and renal arteries to atrial and brain natriuretic peptides and whether this response is altered in diabetes.

Six weeks after diabetes induction by alloxan, the renal and carotid arteries were isolated from the body and each segment was tested for isometric tension in an organ bath. All segments were preconcentrated with phenylephrine and then with the cumulative addition of doses of ANP and BNP (10^{-12} - 10^{-7} M) to the organ bath, the concentration-response curves to ANP and BNP were measured.

In all cases, natriurtic peptides produced a relaxation of the carotid and renal arteries and showed a hyporeactivity in carotid and renal arteries of diabetic rabbits. Although this hypoactivity was not present in all cases, it would be clearly observed in the case of an increase in sample size.