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**Farmakologiczna ocena mechanizmów zaangażowanych w hamowanie neurogennej odpowiedzi presyjnej u szczurów z ostrą niewydolnością serca wywołaną przewężeniem łuku aorty.**

**Rozprawa na stopień**

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**VIII. Abstract**

The aim of this study was to determine the effect of the acute heart failure, induced by transverse aortic constriction (TAC), on pressour response in rats and pharmacological evaluation of potential mechanisms involved in the modulation of this response.

TAC or a sham operation was performed in pithed and vagotomised rats. To ensure comparable values of systolic blood pressure in sham-operated and TAC group, vasopressin was infused into sham-operated rats. Comparable increases in systolic blood pressure (SBP) were elicited by electrical stimulation of the preganglionic sympathetic nerve fibers or by the administration of α1-adrenergic agonist – phenylephrine. Experiments were performed under control conditions and in the presence of the cannabinoid CB1 receptors agonist and antagonist CP55940 and AM257 respectively, α2-adrenergic receptors antagonist – rauwolscine, reuptake of noradrenaline blocker – desipramine, ATP-sensitive potassium channels inhibitor – glibenclamide and bilateral adrenalectomy. At the end of some experiments, the atria and aorta arch were isolated for further experiments.

TAC significantly increased the basal SBP. Furthermore TAC reduce electrically (but not chemically) induced pressor response by 50-80%. Transverse aortic constriction did not affect the aortic tension induced by KCl and phenylephrine-stumulated contraction. TAC significantly increased the basal heart rate by activation adrenal medulla. There was no increase in in sham operated rats. CP55940, AM251, rauwolscine, desipramine and glibenclamide did not affect the inhibitory effect of TAC on the neurogenic vasopressor response. On the other hand bilateral adrenalectomy abolished this effect. The contractile effects of noradrenaline and isoprenaline were reduce, whereas their chronotropic effects were not affected.