

Abstract

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Title of diploma thesis: The in vitro effects of selected fenolic substances on isolated rat vessels

Silymarin flavonolignans are endowed with various aspects. Recently their hepatoprotective effect has been discussed widely as well as their positive influence on the cardiovascular system. This diploma thesis is concerned with the vasodilatory effects of silybin-A, silybin-B, silybin-A + B and isosilybin-A on rat aorta.

The aim of this study was to test the vasodilatory effect of selected substances.

The dependence of aortic relaxation on the increasing concentration of tested substances was measured. Isolated Wistar breed rat aorta was used.

DRC curves were created and EC_{50} values were assessed from the obtained values of vessel tension. The results were evaluated subsequently.

The vasodilator potential of silybin-A and isosilybin-A is comparable; hence the position of the substituents may be irrelevant in having any impact on relaxation of the vessels. Different vasodilatory effects of silybin-A and silybin-B have been observed thus, the relaxation could be stereoselective. The testing of the equimolar mixture of silybin-A and silybin-B showed that the individual substances probably did not potentiate or inhibit each other. The ability of vasodilation decreases in a row: isosilybin-A ~ silybin-A > silybin-A+B > silybin-B.