

PRESS RELEASE

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Propranolol better than atenolol because of its effect on platelet aggregation?

ZAGREB – Propranolol might be better than atenolol in treating arterial hypertension because of its effect on platelet aggregation, shows a study published in the April issue of the *Croatian Medical Journal*.

Propranolol and atenolol are antihypertensive drugs belonging to the group of beta-blockers, widely used in clinical practice. In addition to lowering arterial pressure, these drugs have many other effects, including inhibition of platelet aggregation, a crucial factor in the development of atherosclerosis. The study, conducted by a group of scientists from Split, Croatia, showed that propranolol inhibits platelet aggregation more than atenolol. Therefore, propranolol could indirectly reduce the risk of atherosclerosis, which makes it a better choice for treating arterial hypertension.

Twenty successive outpatients with moderate essential hypertension were included in this prospective study. They were randomized into two groups and were given either propranolol or atenolol for the first two weeks, followed by a one-day washout period, and then a two-week administration of the other drug. Arterial blood pressure was regularly measured in all patients, and a battery of laboratory tests was performed at four time points during study. The results showed that propranolol and atenolol effectively reduce arterial blood pressure, but also cause some metabolic changes. Both drugs decreased HDL (“good”) cholesterol concentration, and increased triglyceride concentration. Propranolol also significantly

increased LDL (“bad”) cholesterol concentration. These findings confirmed the already known unfavorable effect of beta-blockers on lipid metabolism.

In this study, special attention was given to the values of circulating platelet aggregates. Atenolol reduced their number, but not significantly. However, propranolol did significantly reduce platelet aggregation, and consequently cut down the possibility of microthrombus formation and the development of atherosclerosis.

These results are especially interesting in the context of a recent meta-analysis published in *The Lancet*, which showed that the antihypertensive activity of atenolol was not superior to placebo, and that it was even inferior to other antihypertensive agents in terms of cardiovascular morbidity and mortality. Sustained increase in platelet aggregability, confirmed in the study by Croatian scientists, could offer an explanation of the phenomenon. The study was conducted by Ante Punda, Stojan Polić, Jugoslav Bagatin, Vinko Marković and Ajvor Lukin from the Split University Hospital, and Zvonko Rumboldt from the Split University School of Medicine.

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