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**EVALUATION OF ANTIGLYCOOXIDANT PROPERTIES
OF PROPRANOLOL IN IN-VITRO STUDIES**

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Relevance. Propranolol is a frequently used beta-blocker to treat tremors, angina pectoris, hypertension, and different heart rhythm disorders. It works by competitively blocking beta-1 and beta-2 adrenergic stimulation, thus blocking the actions of norepinephrine. However, no data are available on its anti-glycooxidation properties.

Aim: the study aimed to assess the antioxidant and antiglycation activities of propranolol in an in vitro bovine serum albumin (BSA) model.

Materials and methods. Fructose and galactose were utilised as glycation agents. Both 1 mM of propranolol and 0.09 mM of BSA were incubated with 0.5 M sugars for six days. We assessed the level of protein carbonyls (PC), Amadori products (AP), and advanced oxidation protein products (AOPP) using colorimetric methods. In addition, we evaluated the content of kynurenine (KN), N-formylkynurenine (NFK), and advanced glycation end products (AGE) using fluorometric methods. The complete study was performed in three consecutive experiments, duplicated every time. Statistical analysis was conducted using ANOVA analysis of variance with Tukey posthoc test.

Results and their discussion. Both oxidation protein products (PC and AOPP) and glycation products (AP and AGE) substantially decrease in BSA samples with both glycation factors and propranolol versus BSA with fructose or galactose. Propranolol's antiglycooxidant activity was similar to captopril, a known protein glycation inhibitor.

Conclusion: to conclude, our results demonstrated that propranolol, a popular beta-adrenergic receptor antagonist, exhibits antiglycooxidant properties. The activity of propranolol is comparable to substances with documented antiglycation effects. Further studies on animal and human models are vital, as mitigation of protein glycooxidation may impede cardiovascular disease progress.