

ABSTRACT

EFFECTS OF ANABOLIC STEROIDS ON CORONARY BLOOD FLOW IN EXERCISED
TRAINED RATS

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The abusive use of ergogenic resources as the anabolic steroid became an increasing problem in several segments of the population, beyond the athletic way, searching for better performance or physical appearance, without being worried about the risks of the collateral effects promoted by this practice. In the present work we studied the effects of the use of supraphysiological doses of anabolic steroids associated with aerobic swimming training on the coronary blood flow of normotensive rats, investigating the participation of adenosine as one of the possible mechanisms of blood flow regulation, besides the cardiac structural alterations that could influence the coronary blood perfusion. The effect of the physical training was efficient to promote beneficial adaptations of the cardiovascular system, as the presence of physiological cardiac hypertrophy and improves the coronary blood flow at rest, probably mediated by a higher circulating and cardiac adenosine production. The use of anabolic steroids associated with the swimming training attenuated the beneficial effect promoted by training, being observed the presence of cardiac hypertrophy, followed by reduction of cardiac output and coronary blood flow, mediated by lower circulating adenosine production, besides the impairment of the vasodilator response to the acetylcholine, demonstrating a probable endothelial dysfunction and reduction of the cardiac capillary density, characterizing in this way, a pathological state.

Keywords: Anabolic steroids, exercise training, coronary blood flow and adenosine.