

Influence of nicotine on the coronary circulation of the isolated heart of the cat

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Nicotine administered to the isolated perfused heart of the cat produces initial bradycardia followed by long-lasting tachycardia and enhancement of the strength of contractions. The coronary flow after a reduction shows a prolonged increase that continues after the heart hyperactivity has ceased. When nicotine was given after hexamethonium or after reserpine pretreatment, the cardio-stimulation disappeared and only reduction of the coronary flow was obtained. It is concluded that the complexity of the pharmacological effect of nicotine on the coronary flow of the isolated heart preparation depends on an indirect vasodilator action mediated by the heart stimulation due to liberation of intracardiac catecholamines and also on vasoconstriction due to a direct effect of the drug on the coronary vasculature. 1967 Royal Pharmaceutical Society of Great Britain