

NEGATIVE EFFECTS OF NICOTINE IN CARDIOVASCULAR DISEASES

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Background. Nicotine produces effects that influences CVD. Nicotine has various effects on CVS such as decrease in coronary blood flow, ACS, arrhythmogenesis, dyslipidemia and insulin resistance. It also promotes heart failure and cardiovascular morbidity and mortality in patients with chronic kidney disease. **Aim of study.** To analyze negative cardiovascular effects of nicotine. It is important to consider what we know about nicotine intake and its relationship with CVD. **Materials and methods.** This research involves through review and meta-analysis of existing literature in negative effects of nicotine in CVD. The data were respectfully collected from NCBI, NIH, Pub-med and AHA. This study reports on negative effects of nicotine in CVD. **Results.** Based on clinical trials reviewed from the above sources, Nicotine intake causes >150% increase in plasma epinephrine and increases HR (as much as 10-15 bpm acutely and on average 7 bpm throughout the day), myocardial contractility and BP (acute increase 5-10 mmHg). HR and BP increase regardless of the route of administration. Nicotine causes silent impairment of coronary blood supply mimicking exercise induced ischemia leading to ACS. The risk of sudden cardiac death in patients with negative effect of nicotine compared to other patients with non-nicotinic

associated CVD as nicotine contributes to fatal VT and AFib has risk of developing CVA. Smoking subjects were found to have low HDL cholesterol (10-15% decreased overall) and high level of LDL cholesterol. One of the mechanisms is found to be a negative effect of nicotine induced increased lipolysis, increasing plasma free fatty acid which results in synthesis of LDL and lowering HDL. Nicotine enhances insulin resistance by increasing insulin antagonist hormones. Studies shows long-term use of nicotine gums has an association with hyperinsulinemia. **Conclusion.** Based on studies and reviews from the literature, Nicotine in people contributes to acute cardiovascular events with underlying CVD and exerts effects that could contribute to atherogenesis. Short-term nicotine use for smoking cessation also appears to pose little cardiovascular risk in subjects with unknown cardiovascular disease. The upcoming researchers should prioritize the negative effect of nicotine and associated CVD in both smoking and non-smoking subjects. Thereby enhancing the understanding about negative effects of nicotine in CVD. **Keywords:** Nicotine Negative Effects, Cardiovascular Diseases, Insulin Resistance, Atherogenesis, Dyslipidemia, Arrhythmogenesis.