

Pesticides-induced Cardiovascular Dysfunctions: Prevalence and Associated Mechanisms

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ABSTRACT

Increased applications of pesticides, mainly in agriculture and public health, have resulted in increased chances of human exposure to pesticides. Chronic exposure to pesticides has been implicated in several human diseases, including cardiovascular diseases. Cardiovascular diseases are broadly used for various heart pathological conditions, including a defect in blood vessels, and they include myocardial infarction, atherosclerosis, stroke, cardiomyopathy, coronary heart disease, etc. In this review, the association between human exposure to pesticides and the development of cardiovascular diseases was discussed using epidemiological and laboratory data. The toxicokinetics of pesticides in humans was reviewed, as well as the risk factors for cardiovascular diseases. The important role of oxidative stress principally the induction of reactive oxygen species as the signaling molecules for various signaling pathways involved in pesticides-induced cardiovascular disease, was discussed.

Keywords: Pesticides, occupational exposure, cardiovascular diseases, oxidative stress, ROS, endothelial dysfunction.

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