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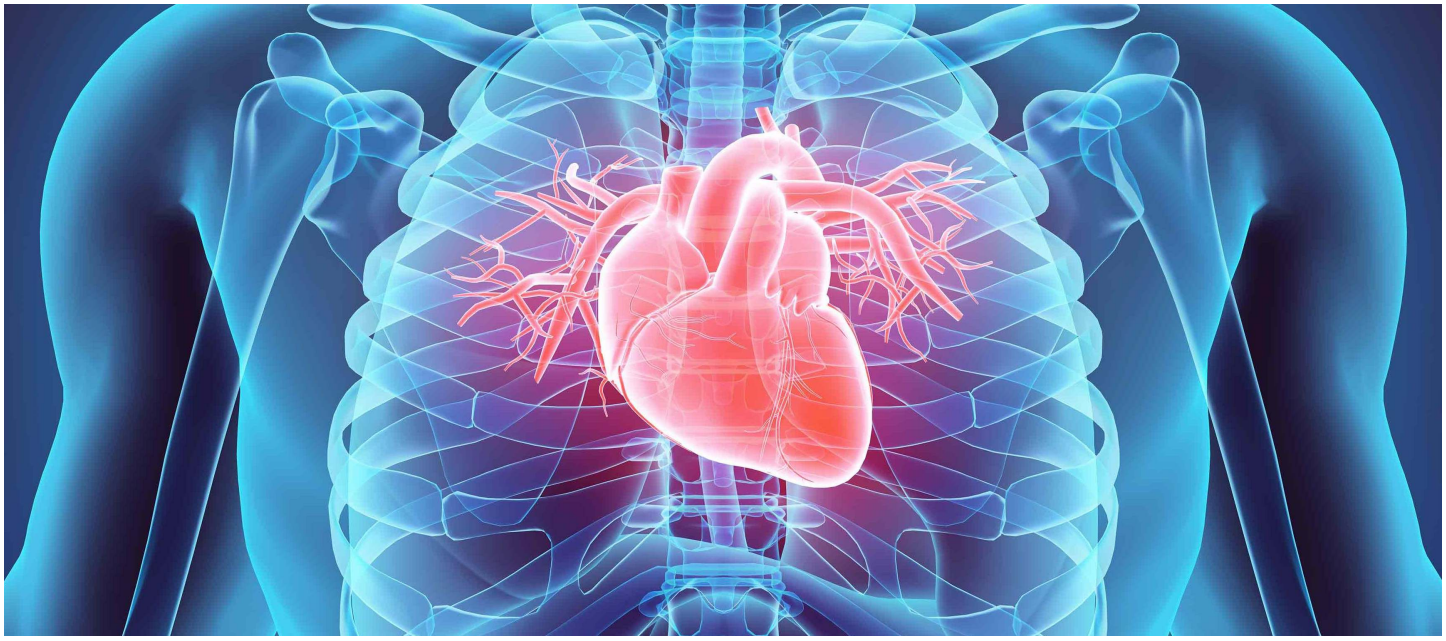

Research Highlight

CARDIOVASCULAR DISEASES (CVD); AN ALARMING THREAT TO GLOBAL HEALTH

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Haemodialysis | cardiovascular disease | free radicals | oxidative stress | high density lipoprotein cholesterol | triglycerides | renal failure

Cardiovascular diseases are a potential threat to global health and according to a new scientific study every country over the past 25 years facing the one-third of deaths occur worldwide due to cardiovascular diseases.

Dr. Gregory Roth, Assistant Professor at the Institute for Health Metrics and Evaluation (IHME) at the University of Washington said that, "Trends in CVD mortality are no longer declining for high-income regions and low- and middle-income countries are also seeing more CVD-related deaths".

Sedentary lifestyle, physical inactivity, high blood pressure, high cholesterol level, obesity and unhealthy lifestyle are the key factors that are responsible for causing CVD. It is reported that in 2016, 26.9% of adults did not engage in leisure-time physical activity which leads towards severe ailment. Patients who have renal failure or kidney problems are more likely to suffer from CVD and it is observed that the mortality rate is high among these patients[1].

Dyslipidemia and oxidative stress are probably considered major atherogenic risk factors in chronic renal failure[2]. Oxidative stress leads towards an elevated amount of free radicals that can cause lipid peroxidation which can be evaluated through plasma malondialdehyde (MDA)[3]. It also serves as a predictor of cardiovascular ailments in patients on hemodialysis. This situation points out the role of oxidative stress as a cardiac risk factor in these patients[4]. Moreover, according to some investigations, hemodialysis is associated with increased free radical production[5].

Considering these facts, scientists get motivated and conducted novel research in order to assess the impact of hemodialysis on plasma lipid peroxidation as well as lipid profile (total cholesterol, high-density lipoprotein cholesterol (HDL-C) and triglyceride in hemodialysis patients and their comparison with control groups[6].

For this purpose, scientists recruited 22 patients having Chronic Renal Failure (CRF) disease who were hemodialyzed. However, these persons did not have coronary heart disease. Afterward, the research team determined the plasma levels of lipid peroxidation and lipid profile in hemodialysis patients and comparison with control groups was done[6].

This study showed the alterations in the level of plasma lipid peroxidation as well as triglyceride in hemodialyzed patients. Scientists suggested that these changes can be connected with the patient uremia, dialysis

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membrane as well as dialysis process. Moreover, according to the research team, the metabolic alterations associated with renal failure can cause dyslipidemia which is crucial in the development of cardiovascular abnormality in hemodialyzed patients.

Conclusively, the methods employed in dialysis, the use of different oral antioxidants, the removal of active oxygen from the dialysis surrounding are the ways that can stop sudden cardiovascular abnormality in the hemodialysis patients. The American Heart Association is playing a fundamental role in improving the cardiovascular health of Americans by giving them seven key health factors and they named these factors “Life's Simple 7”. It is reported that these key health factors reduced deaths from CVD by 20% by the year 2020. Life's Simple 7 are not-smoking, physical activity, healthy diet, body weight, control of cholesterol, blood pressure and blood sugar. The crux of the matter is “Prevention is better than cure”.

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