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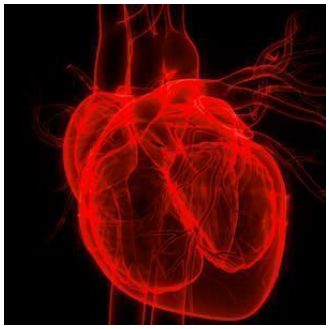
Iron Deficiency and Heart Disease



Findings from a new study published in ESC Heart Failure show that around 10% of new coronary heart disease cases occurring within a decade of middle age could be avoided by preventing iron deficiency.

While the study does not conclude that iron deficiency causes heart disease, it provides further evidence that there is a link between the two and that there is a need for more research to confirm this association.

Previous studies show that in patients with cardiovascular diseases, iron deficiency was linked to worse outcomes, including hospitalisations and death. In patients enrolled in the FAIR-HF trial, treatment with intravenous iron improved symptoms, functional capacity, and quality of life in patients with heart failure and iron deficiency.

The FAIR-HF 2 trial investigates the impact of intravenous iron supplementation on the risk of death in patients with heart failure. The study aimed to examine whether the association between iron deficiency and outcomes was also observed in the general population. 12,164 patients were included. The median age of participants was 59 years. 55% of the study population were women.

Participants were classified as iron deficient or not based on two definitions: absolute iron deficiency, which only includes ferritin and functional iron deficiency, which includes ferritin and transferrin.

Study participants were followed up for incident coronary heart disease and stroke, death due to cardiovascular disease, and all-cause death. The goal was to analyse the association between iron deficiency and incident coronary heart disease, stroke, cardiovascular mortality, and all-cause mortality.

60% of study participants had absolute iron deficiency at baseline, and 64% of patients had functional iron deficiency. During a median follow-up of 13.3 years, there were 2,212 deaths. Of these, 4.7% died from a cardiovascular cause. Incidence coronary heart disease was diagnosed in 8.5% of patients, and stroke was diagnosed in 6.3%.

Functional iron deficiency was associated with a 24% higher risk of coronary heart disease, 26% raised risk of cardiovascular mortality, and 12% increased risk of all-cause mortality compared with no functional iron deficiency. Absolute iron deficiency was associated with a 20% higher isk of coronary heart disease compared with no absolute iron deficiency but was not linked with mortality. No association was found between iron status and incident stroke. In addition, 5.4% of all deaths, 11.7% of cardiovascular deaths, and 10.7% of new coronary heart disease diagnoses could be attributed to functional iron deficiency within a 10-year period.

These findings show that without the presence of iron deficiency, 5% of deaths, 12% of cardiovascular deaths, and 11% of new coronary heart disease diagnoses could have been prevented. Overall, iron deficiency was highly prevalent in middle-aged individuals. Approximately two-thirds had functional iron deficiency, had a higher risk of developing heart disease, and a higher risk of dying within the next 13 years.

Source: ESC

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