HealthManagement
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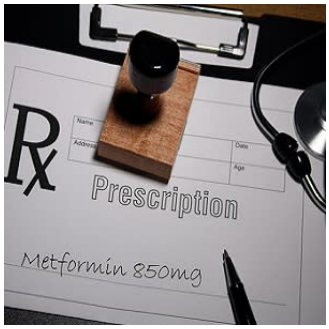
Cardioprotective role of metformin



Left ventricular hypertrophy (LVH) is found in nearly one-third of patients with coronary artery disease (CAD). LVH is an independent predictor of mortality and is a powerful prognostic factor in CAD. Regression of LVH can reduce the incidence of major cardiovascular events.

Insulin resistance (IR) may play a role in the development of LVH. Several studies have shown an association between IR and LVH. Central obesity and non-diabetic dysglycaemia (pre-diabetes) are also associated with substantial cardiovascular risk.

A new study (MET-REMODEL Trial) was conducted to evaluate whether metformin could regress left ventricular hypertrophy (LVH) in patients who have coronary artery disease, with insulin resistance (IR) or pre-diabetes. Metformin is an anti-diabetic drug that improves insulin sensitivity and reduces IR. The drug has multiple modes of actions and is known to reduce cardiac hypertrophy. Some studies have also reported the cardiovascular benefits of metformin, especially in patients with Type 2 diabetes and heart failure.

68 patients were included in the study. Study participants were between 18-85 years of age with documented CAD and IR but without diabetes. They received either metformin XL (500mg twice daily for 2 weeks, after which the dose was increased to 1000mg twice daily for 11 months), or placebo. The primary endpoint of the study was change in left ventricular mass indexed to height (LVMI).

Results of the study showed that metformin treatment significantly reduced LVMI compared to placebo. Metformin also significantly reduced other secondary endpoints which included LVM, body weight, subcutaneous adipose tissue, office systolic blood pressure, and concentration of thiobarbituric acid reactive substances.

While these findings suggest that metformin may have cardioprotective effects, larger trials are required to derive conclusive evidence of its cardioprotective role.

Source: European Heart Journal

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