

Metformin in Acute Myocardial Infarction: The GIPS-III Study

History: Treatment with metformin has been linked with improved outcomes following myocardial infarction in patients with diabetes. Animal studies have demonstrated an association between metformin treatment and preservation of left ventricular function.

Question to answer: Does treatment with metformin preserve left ventricular function following ST-segment elevation myocardial infarction (STEMI) in patients without diabetes who are undergoing primary percutaneous coronary intervention (PCI)?

Trial Design	<p>Randomized, double-blind, placebo-controlled clinical trial; N=380</p> <p><u>Randomization:</u> Metformin (500 mg) or placebo twice daily for 4 months</p> <p><u>F/U:</u> Outpatient clinic visits at 2 weeks, 7 weeks, and 4 months; standard laboratory assessment and cardiac MRI at 4 months</p>	
Primary Endpoint	Improvement in left ventricular ejection fraction (LVEF) 4 months after randomization	
Trial Results LVEF (95%CI)	<p>Metformin</p> <p>53.1% (51.6%-54.6%)</p>	<p>Placebo</p> <p>54.8% (53.5%-56.1%)</p>
	<i>P</i> =0.10	

Take Away: Metformin treatment was not associated with improved LVEF after 4 months in patients without diabetes who underwent primary PCI for STEMI.