Nitrites in Acute Myocardial Infarction (NIAMI)

History: Ischemia reperfusion injury is reduced in experimental models of acute myocardial infarction.

Question to answer: Is sodium nitrite given prior to PCI safe, and is it effective in reducing myocardial injury in patients with a first acute ST elevation MI (STEMI)?

Trial Design	Randomized, interventional, Safety/Efficacy Trial. N=229. Acute STEMI patients. Sodium nitrite (70 micromoles) vs. placebo over 5minutes just before PPCI.	
Primary Endpoint	Myocardial infarct size measured at 6-8 days after injection.	
Secondary EP	LVEF, End Systolic Volume Index, Infarct size at 6 months, Troponin, plasma creatine kinase	
Trial Results	Primary No difference in infarct size 6-8 days: Median size 22% (nitrite) and 20% (placebo) p = 0.31 6 months: Median size 12% (nitrite) and 14% (placebo)	Secondary No significant differences at 6-8 days or at 6 months.

Take Away: There were no differences in infarct size in acute STEMI patients when sodium nitrite was given just before PCI. There was a potential treatment effect in diabetics that will require further study.

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