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Significance of infarct site and methylprednisolone on survival following acute myocardial infarction.

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Abstract

Eight hundred and forty-nine patients with confirmed myocardial infarction were enrolled in a double-blind, placebo-controlled clinical trial of the efficacy of methylprednisolone sodium succinate (MPSS, Solu-Medrol Sterile Powder, The Upjohn Company) for reduction of morbidity and mortality following an acute myocardial infarction complicated by left ventricular failure. Two study groups were prospectively defined based on time from onset of chest pain to administration of investigational therapy. Study Group 1 received investigational therapy before 6 hours had elapsed while Study Group 2 was treated 6 to 12 hours from the onset of chest pain. Both study groups were randomized to receive either a 30 mg/kg i.v. dose of MPSS (3 g maximum) or a matching placebo at the time of study admission, to be followed by an identical dose three hours later. Definitive electrocardiograms were available for 814 patients at admission. The mortality rates at 28 days and 6 months for the anterior transmural and nontransmural infarctions did not differ significantly with regard to time to treatment or investigational therapy. For the inferior/posterior transmural infarctions, however, there was a 92% relative reduction in mortality at 28 days in the MPSS treatment arm of Study Group 2 (1/83 [1.2%] for patients given MPSS versus 15/97 [15.5%] for those given placebo; p less than 0.001). This significant difference persisted at the 6 month follow-up evaluation (3/82 [3.6%] for patients on MPSS versus 17/96 [16.6%] for those on placebo, P less than 0.01). Site-specific efficacy has been reported for the anterior infarction groups of the major beta-blocker trials.