Background/aim: The effects of intracoronary injections of mBMC on inflammatory responses are not clarified. The aim of this study was to investigate the influence of intracoronary injections of mBMC on circulating inflammatory mediators.

Materials/methods: 100 patients with AMI treated with percutaneous coronary intervention were randomized to intracoronary injections of autologous mBMC or control group. Fasting blood samples were drawn the day before stem cell transplantation (baseline), and after 1 day (Tx+1), 3 days (Tx+3), 2-3 weeks and 3 months.

Results: Median values are given. In the mBMC group the levels of IL-6 increased significantly from baseline to Tx+1 compared to a decrease in the control group; (6.6 to 8.2 vs 8.0 to 4.9 pg/ml); (p<0.01 for between group differences). The decrease in IL-6 in the mBMC group from baseline to 2-3 weeks was less pronounced than in the control group; (6.6 to 4.4 vs 8.0 to 2.9 pg/ml) (p<0.05). During follow-up, CRP levels decreased in both groups, but to a lesser extent from baseline to Tx+1 and Tx+3 in the mBMC group. From baseline to 3 months the levels of TNFα were increased in the control group compared to the mBMC group; (1.9 to 2.1 vs 2.0 to 2.0 pg/ml), and the levels of MCP-1 increased to a greater extent in the control group; (234 to 285 vs 251 to 267 pg/ml) (p<0.05).

Conclusion: Intracoronary injection of mBMC in patients with AMI may induce a short-term pro-inflammatory response, but possibly a slightly reduced inflammatory response after 3 months.