

Intracoronary infusion of a combination of bone marrow-derived stem cells in dogs

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BACKGROUND: Infusion of diverse types of bone marrow cells, as a source of endothelial progenitor cells (EPCs), into the ischemic myocardium is emerging as a promising therapy for coronary ischemia, probably mediated by the formation of new blood vessels. Studies have shown that while the procedure is safe and feasible, efficacy results are contentious. The investigators in the present preclinical translation study hypothesized that the infusion of a combination cell product consisting of EPCs and other cell types, such as mesenchymal stem cells, promotes the formation of more stable and mature blood vessels resulting in improved clinical outcomes. The safety and feasibility of the intracoronary infusion of such a cell combination was assessed in a canine model.

METHODS: A mixture of canine autologous mononuclear cells (as the source of EPCs) and ex vivo-expanded bone marrow-derived mesenchymal stem cells or a placebo solution were intracoronarily infused into healthy dogs. Follow-up a