

injected into the AIV. Animals were sacrificed at days 14 (n=4), 28 (n=4), and the hearts were excised and examined.

Results Complete AIV occlusion had no impact on LAD flow parameters. No death, cardiac tamponade, ventricular arrhythmia, or other procedural complications occurred. Immunofluorescence studies showed that EGFP-positive cells localised primarily in the infarct region but none in infarct marginal or normal regions both at 14 and 28 days.

Conclusion Selective regional myocardial perfusion is feasible through coronary venous system with over-the-wire balloon, targeting selected ischemic myocardium. This novel technique has potential application for effective cell transplantation.

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**SELECTIVE RETROGRADE CORONARY VENOUS
PERFUSION WITH OVER-THE-WIRE BALLOON:
A NEW TECHNIQUE FOR CELL TRANSPLANTATION**

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Objective Effective cell homing to ischemic myocardium remains a practical challenge. This study evaluated the efficiency of cell delivery via coronary venous system using over-the-wire balloon in a canine model of acute myocardial infarction.

Methods Acute myocardial infarction was induced by ligation of the left anterior descending (LAD) coronary artery in eight dogs (22.1±1.9 kg). Mesenchymal stem cell (MSCs) from canine bone marrow were isolated and purified by density gradient centrifugation, cultured by adhering to culture-flask and labelled with enhanced green fluorescence protein (EGFP). One week after infarction, the coronary sinus was cannulated percutaneously and an over-the wire balloon catheter advanced to the proximal portion of anterior interventricular vein (AIV) in parallel to LAD. The balloon catheter was inflated temporarily to occlude the AIV, and 1×10^7 EGFP-labelled MSCs was