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Two-year Outcome of Turkish Patients Treated with Zotarolimus Versus Paclitaxel Eluting Stents in an Unselected Population with Coronary Artery Disease in the Real World: A Prospective Non-randomized Registry in Southern Turkey

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Abstarc :

In this study, we investigated the feasibility and safety of intravenous transplantation of allogeneic bone marrow mesenchymal stem cells (MSCs) for femoral head repair, and observed the migration and distribution of MSCs in hosts. MSCs were labeled with green fluorescent protein (GFP) in vitro and injected into nude mice via vena caudalis, and the distribution of MSCs was dynamically monitored at 0, 6, 24, 48, 72 and 96 h after transplantation. Two weeks after the establishment of a rabbit model of femoral head necrosis, GFP labeled MSCs were injected into these rabbits via ear vein, immunological rejection and graft versus host disease were observed and necrotic and normal femoral heads, bone marrows, lungs, and livers were harvested at 2, 4 and 6 w after transplantation. The sections of these tissues were observed under fluorescent microscope. More than 70 % MSCs were successfully labeled with GFP at 72 h after labeling. MSCs were uniformly distributed in multiple organs and tissues including brain, lungs, heart, kidneys, intestine and bilateral hip joints of nude mice. In rabbits, at 6 w after intravenous transplantation, GFP labeled MSCs were noted in the lungs, liver, bone marrow and normal and necrotic femoral heads of rabbits, and the number of MSCs in bone marrow was higher than that in the, femoral head, liver and lungs. Furthermore, the number of MSCs peaked at 6 w after transplantation. Moreover, no immunological rejection and graft versus host disease were found after transplantation in rabbits. Our results revealed intravenously implanted MSCs could migrate into the femoral head of hosts, and especially migrate directionally and survive in the necrotic femoral heads. Thus, it is feasible and safe to treat femoral head necrosis by intravenous transplantation of allogeneic MSCs.

Key Word :
femoral head necrosis, bone marrow mesenchymal stem cell, migration, safety

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