International Journal Of Bilogical Sciences

Pretreatment of Cisplatin in Recipients Attenuates Post-Transplantation Pancreatitis in Murine Model

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Abstarc :

Pancreas transplantation is the definite treatment for type 1 diabetes that enables the achievement of long-term normoglycemia and insulin independence. However Post-Transplantation Pancreatitis (PTP) due to ischemia reperfusion (IR) injury and preservation is a major complication in pancreas transplantation. Owning the potential anti-inflammatory effect of Cisplatin (Cis) in liver IR injury, we have examined if Cis could attenuate PTP using a murine model. We found that Cis is able to prevent inflammatory response in PTP. Pretreatment of Cis in recipient mice reduce the impairments of the grafts and hyperamylasimea in the recipients. We documented that the protective mechanism of Cis in PTP involves improvement of microcirculation, reduction of the mononuclear cellular infiltration and apoptosis, suppression of inflammatory cytokine-cascade and inhibition of translocation of high-motility group box protein-1 (HMGB-1) from nucleus to cytoplasm. In short, our study demonstrated that pretreatment of Cis in recipients may reduce the onset of PTP in pancreas transplantation.

Key Word :
Cisplatin, Pancreatitis, Ischemia reperfusion injury, High-motility group box protein-1, Intravital fluorescence microscopy.

Volume 8, Number 3, - 2012 , ISSN 1545-1003