Analisis Ekspresi TGF- 1 dan Interleukin-10 pada Proses Perbaikan Fibrois Hati Tikus yang Diberikan Sel Punca Mesenkim Asal Tali Pusat Manusia = Analysis of TGF- Î²1 and Interleukin-10 Expression in the Repair of Liver Fibrosis in Rats Treated by Human Umbilical Cord-Derived Mesenchymal Stem Cells.

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Abstrak

Penelitian ini bertujuan untuk melihat efek pemberian sel punca mesenkim (SPM) asal tali pusat yang diduga dapat menurunkan TGF- 1 dan meningkatkan interleukin-10 serta menurunkan derajat fibrosis hati dengan skoring fibrosis NAFLD, menggunakan blok parafin hati tikus dari penelitian sebelumnya. Tikus diberi 2AAF/CCl4 untuk menimbulkan model fibrosis, dosis CCl4 2mg/kgBB, 2AAF 10mg/kgBB dan SPM 1x106. Kelompok dibagi menjadi tiga yaitu kelompok I kontrol tidak diberi perlakuan, kelompok II diberikan 2AAF/CCl4, dan kelompok III diberikan 2AAF/CCl4 serta SPM asal tali pusat manusia. Ekspresi sitokin interleukin-10 dan TGF- 1 diperiksa dengan menggunakan pulasan imunohistokimia. Kuantifikasi pemeriksaan imunohistokimia dengan menghitung jumlah sel kupffer positif warna coklat pada sinusoid lalu dibagi dengan jumlah keseluruhan sel kemudian dikali seratus persen pada sepuluh lapang pandang. Terdapat perbedaan signifikan ekspresi TGF- 1 antara kelompok tanpa SPM dibanding dengan kelompok kontrol (p=0.02) dan kelompok SPM (p=0.04). Terdapat peningkatan bermakna ekspresi interleukin-10 antara kelompok SPM dengan kelompok kontrol (p=< 0.00) dan tanpa kelompok SPM (p=0.005). Terdapat korelasi positif TGF- 1 dengan peningkatan skoring NAFLD (r=0.39,p=0.035) dan tidak ada korelasi IL-10 dengan skoring NAFLD. Pemberian SPM dapat menurunkan ekspresi TGF-1 dan meningkatkan ekspresi interleukin-10 pada jaringan hati tikus yang diinduksi oleh 2-AAF/CCl4 dan memperbaiki fibrosis dengan menurunkan skoring NAFLD.

.....This study aims to look at the effect of mesenchymal stem cell (SPM) originating from the umbilical cord which is thought to reduce TGF-1 and increase interleukin-10 and reduce the degree of liver fibrosis by scoring NAFLD fibrosis, using rat liver paraffin blocks from previous studies. Mice were given 2AAF / CCl4 to cause fibrosis model, 2 mg / kgBB of CCl4 dose, 2AAF 10mg / kgBB and 1x106 SPM. The group was divided into three namely control group I was not given treatment, group II was given 2AAF / CCl4, and group III was given 2AAF / CCl4 and SPM from human umbilical cord. Interleukin-10 and TGF-1 cytokine expressions were examined using immunohistochemical smear. Quantification of immunohistochemical examination by counting the number of brown positive kupffer cells in sinusoids and then divided by the total number of cells and then multiplied one hundred percent in ten fields of view. There was a significant difference in TGF-1 expression between the groups without SPM compared to the control group (p = 0.02) and the SPM group (p = 0.04). There was a significant increase in the expression of interleukin-10 between the SPM group and the control group (p = <0.00) and without the SPM group (p = 0.005). There was a positive correlation of TGF-1 with increased NAFLD scoring (r = 0.39, p = 0.035) and there was no IL-10 correlation with NAFLD scoring. Giving SPM can reduce TGF-1 expression and increase the expression of interleukin-10 in rat liver tissue induced by 2-AAF / CCl4 and improve fibrosis by decreasing NAFLD scoring.