25th United European Gastroenterology Week
Barcelona 2017

Abstract Issue
mononuclear layer containing stem cells is a novel approach for regeneration of liver cells in patients with alcoholic liver cirrhosis. It is well known that severe liver disease requires a liver transplantation. Moreover, the transplantation of autologous bone marrow stem cells (ABMSC) transplantation in patients with alcoholic liver cirrhosis may be a therapeutic option for those patients.

Aims & Methods: The aim of this study was to evaluate changes of proliferation intensity of liver cells in patients with alcoholic liver cirrhosis after autologous peripheral blood mononuclear cell (PBMC) transplantation. This uncontrolled open-label clinical trial was approved by Ethical committee of Ministry of Health of the Republic of Tatarstan, Russia. Eleven patients took part in the study; they received granulocyte colony-stimulating factor injections for 5 days for PBMC mobilization. On the 6th day PBMCs were collected and injected into the celiac trunk. Liver biopsies were obtained three times from each person on months after the transplantation of PBMCs into the celiac trunk (initial), three and twelve months after the procedure. Liver biopsy specimens were embedded in paraffin and stained immunohistochemically with antibodies against PCNA. The PCNA labeling index was calculated as the number of PCNA-labeled nuclei for 1000 hepatocyte nuclei in each specimen and the results were expressed as percentage ratios. Statistical analysis was done by Wilcoxon signed-rank test using Statistica v.12 software. p value <0.05 was considered significant.

Results: Before the transplantation of PBMCs 28.3 ±18.3% of all the hepatocytes expressed PCNA without any topographic prevalence. Three months after the transplantation the proportion of proliferating hepatocytes increased up to 36.7 ±24.8%. Twelve months after transplantation of PBMCs we found hepatocytes proliferation to be 2 times higher than before the procedure. Proportion of proliferating hepatocytes reached 50.2 ±17.0% (p = 0.04). Great increase in hepatocytes proliferation intensity coincided with biochemical improvements of serum bilirubin, ALT and alkaline phosphatase.

Conclusion: Our study showed that proposed treatment was safe and improvement of blood biochemical data in patients with alcoholic liver cirrhosis. Effectiveness of the procedure requires further investigations.

Disclosure of Interest: All authors have declared no conflicts of interest.

Reference