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Role of bone-marrow derived stem cells in liver regeneration: A multi-center clinical trial

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Liver transplantation represents the only definitive treatment for cases of end stage liver failure. However, this procedure is hindered by a number of obstacles, namely; the marked shortage of liver donors, major operative procedures and lifelong immune suppression, in addition to the high expenses. Regenerative medicine, based on cellular approach for repairing and replacing damaged tissues and organs, is a rapidly growing field of Medicine. Due to the heavy burden of liver diseases in Egypt, this study was designed to evaluate the efficacy of cellular therapy in the form of hepatocytes derived from patients' own haematopoietic stem cells (HSCs), transplanted directly through intra-splenic injections in patients with liver cirrhosis grade B and C Child-Turcotte-Pugh score (CTP B). 100 patients with liver cirrhosis CTP B score were divided into two groups according to the principle of treatment. Group (A) consisted of 50 patients (25 Child B and 25 Child C), who received hepatocytes derived from patients own (HSCs) in addition to conventional treatment. Group (B) received regular conventional treatment. Both groups of patients were followed up for six months after transplantation for assessment of liver functions. There was a significant improvement in the degrees of ascites, lower limb edema, HE, CTP scores and MELD scores in patients treated with hepatocytes derived from HSC. Also, we observed a slight improvement in serum albumin, prothrombin concentration and international normalized ratio in stem cell treated group. No procedure related complications were encountered. We demonstrated the safety and short term efficacy of autologous bone marrow derived hepatocyte transplantation for the support of cirrhotic liver.

Biography

Hala Gabr is a renowned researcher in stem cell biology and therapy in Cairo University. She is the Director of the Pediatric Bone Marrow Transplantation and Cellular Therapy Lab in Cairo University. She is the Co-founder of the Egyptian Society for Progenitor Stem Cell Research, the leading stem cell research body in Egypt. She has published more than 30 papers in reputed journals and is an Editorial Board Member of a number of reputed journals. She has supervised nearly a hundred Ph.D and Master thesis in stem cell research.

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