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Human fetal liver cells as a bridge to the liver transplantation in patients waiting for donors

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Background

Liver transplantation (LT) is a method for treating liver cirrhosis. With a great increase in the death rate of patients with liver disorders, there is a necessity to pursue alternative therapeutic implementation as a supportive therapy. Recent studies show outstanding results in therapy using human fetal liver-derived stem cells (FLSC) which can deliver the potential to conservatively manage end-stage liver diseases. The present investigation aimed to study the safety and efficacy of FLSC transplantation.

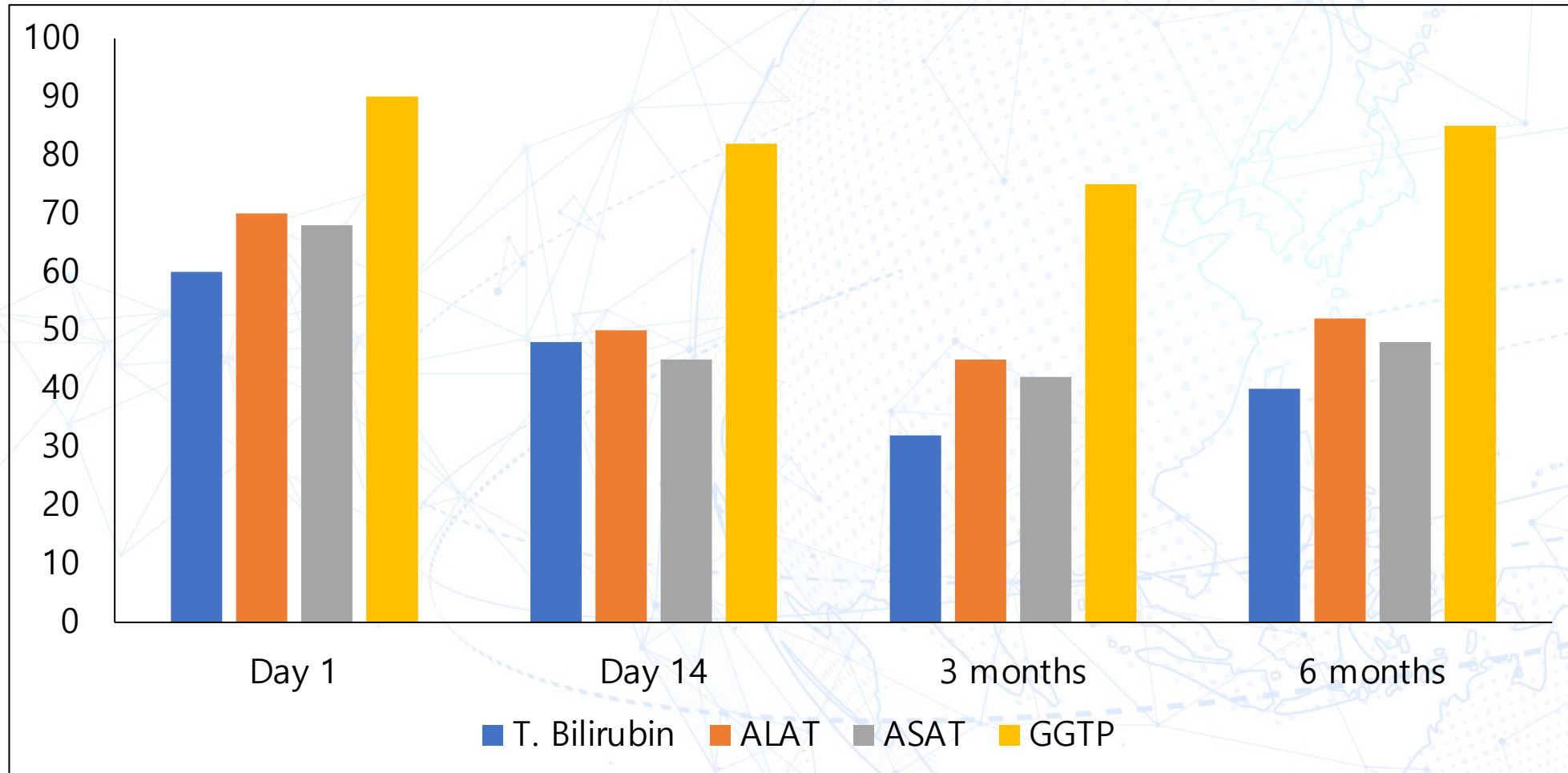
Methods

132 patients with liver cirrhosis of different etiologies were included in this study. All patients were on the waiting list and they were divided into 2 groups: received FLSC therapy and no treatment. FLSCs were obtained from the fetus after abortion by medical indications and were infused into the periphery. Liver function scores were chosen as endpoints to assess efficacy.

Results

Child–Pugh score improved in 90 days in the cell therapy group. The model for end-stage liver disease score remained stable in the treated patients, whereas it increased during follow-up in the control group. Bilirubin levels increased among controls, whereas they decreased in the therapy arm during the first 60 days; INR RC differences between groups reached up to 10%. The changes observed did not persist beyond 90 days. There was marked clinical improvement observed in terms of all clinical and biochemical parameters. Further, there was a decrease in mean MELD score observed in 6 months follow-up in all patients.

Liver damage factors was significantly decreased 3 month after cell-therapy



Conclusions

- Transplantation of human FLSC into the periphery improved liver function in patients with advanced cirrhosis in the first 90 days. However, larger studies are necessary to define the role of human FLSC therapy in cirrhotic patients.
- Treatment by means of human FLSC proposes a potentially helpful modality to liver transplantation in the management of such diseases.