# Title of metanalysis : Efficacy and safety of mesenchymal stem cell therapy in liver cirrhosis: a systematic review and meta-analysis

ID of metanalysis: 19

**Search terms**:

("Liver Cirrhosis" OR ("hepatic cirrhosis" OR "cirrhosis hepatic" OR "cirrhosis liver" OR "fibrosis liver" OR "liver fibrosis")) AND ("Mesenchymal Stem Cells" OR ("stem cell mesenchymal" OR "mesenchymal stem cell" OR "stem cells mesenchymal" OR "bone marrow mesenchymal stem cells" OR "bone marrow mesenchymal stem cell" OR "bone marrow stromal cells" OR "bone marrow stromal cell" OR "bone marrow stromal cells multipotent" OR "multipotent bone marrow stromal cell" OR "multipotent bone marrow stromal cells" OR "adipose derived mesenchymal stem cells" OR "adipose derived mesenchymal stem cells" OR "adipose derived mesenchymal stromal cells" OR "adipose derived mesenchymal stromal cells" OR "mesenchymal stem cells adipose derived" OR "mesenchymal stem cells adipose derived" OR "adipose derived mesenchymal stem cell" OR "adipose derived mesenchymal stem cell" OR "adipose tissue derived mesenchymal stem cell" OR "adipose tissue derived mesenchymal stem cell" OR "adipose tissue derived mesenchymal stem cells" OR "adipose tissue derived mesenchymal stem cells" OR "adipose tissue derived mesenchymal stromal cells" OR "adipose tissue derived mesenchymal stromal cells" OR "adipose tissue derived mesenchymal stromal cell" OR "adipose tissue derived mesenchymal stromal cell" OR "mesenchymal stromal cells" OR "mesenchymal stromal cell" OR "stromal cell mesenchymal" OR "stromal cells mesenchymal" OR "multipotent mesenchymal stromal cells" OR "multipotent mesenchymal stromal cell" OR "mesenchymal stromal cells multipotent" OR "mesenchymal progenitor cell" OR "mesenchymal progenitor cells" OR "progenitor cell mesenchymal" OR "progenitor cells mesenchymal" OR "wharton jelly cells" OR "wharton s jelly cells" OR "wharton s jelly cell" OR "whartons jelly cells" OR "bone marrow stromal stem cells"))

**Inclusion Criteria:**

Population (P): Patients diagnosed with LC, regardless of country, region, or race. Intervention (I): Intervention is only MSC treatment. Comparison (C): Regular medication or placebo. Outcomes (O): Primary results: model for end-stage liver disease score (MELD); albumin (ALB); secondary outcomes: alanine aminotransferase (ALT); aspartate aminotransferase (AST); international normalized ratio (INR); total bilirubin (TBIL) hepatocellular carcinoma (HCC) survival rate. Study design (S): Only RCTs were included in this study

**Exclusion Criteria:**

Conference abstracts, letters with duplicates, case reports, meta-analyses, reviews, non-English published literature, incomplete or unavailable data, studies not related to the topic of the article, animal models and interventions that are not MSC transfusions

Search Date: systematically searched for eligible studies until May 2023

Included studies:

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| Study title | Pubmed ID |
| Phase II trial: undifferentiated versus differentiated  autologous mesenchymal stem cells transplantation in egyptian patients with HCV induced liver cirrhosis. | * **21989829** |
| A study about immunomodulatory effect and efficacy and prognosis of human umbilical cord mesenchymal stem cells in patients with chronic hepatitis B-induced decompensated liver cirrhosis. | * **29293276** |
| Randomized placebo-controlled trial of mesenchymal stem cell transplantation in decompensated cirrhosis. | * **23763455** |
| Autologous bone marrow mesenchymal stem cell transplantation in liver failure patients caused by hepatitis B: short-term and long-term outcomes. | * **21608000** |
| Transplantation with autologous bone marrow-derived mesenchymal stem cells for alcoholic cirrhosis: phase 2 trial. | * **27339398** |
| Clinical and laboratory evaluation of patients with end-stage liver cell failure injected with bone marrow-derived hepatocyte-like cells. | * **21900788** |
| Outcomes of autologous bone marrow mononuclear cell transplantation in decompensated liver cirrhosis. | * **25024623** |
| Human umbilical cord blood-derived mesenchymal stem cell transplantation for patients with decompensated liver cirrhosis. | * **36703021** |
| Mesenchymal stem cell therapy in decompensated liver cirrhosis: a long-term follow-up analysis of the randomized controlled clinical trial. | * **34843069** |
| Human umbilical cord mesenchymal stem cells improve liver function and ascites in decompensated liver cirrhosis patients. | * **22320928** |