

Liver cirrhosis is an end-stage chronic liver disease, a major cause of morbidity and mortality worldwide. Probiotics are living microbes that confer healthy benefits to host animal, when given in tolerable amount. Probiotics are considered as an alternative to conventional drugs for the treatment of early liver cirrhosis. We aimed to analyze the therapeutic effects of, *Lactobacillus plantarum*, *L. rhamnosus*, *L. fermentum*, and their synergistic effect. To induce early liver cirrhosis, the rats were given Thioacetamide (TAA) at the dose of 200mg/kg, 3 times per week for six weeks, consecutively. The induction of cirrhosis was confirmed by biochemical, hematological and histopathological analysis. There was apparent raise in alanine aminotransferase (ALT), aspartate aminotransferase (AST), alkaline phosphatase (ALP), gamma-glutamyl transferase (GGT), and bilirubin levels while albumin level was decreased. Also, the white blood cells (WBCs) were raised, and red blood Cells (RBCs), hemoglobin (HGB), hematocrit (HCT), and platelets were reduced in TAA group. After that, rats were supplemented with *L. plantarum* ($8.25 \times 10^{12}/\text{mL}$), *L. rhamnosus* ($8.40 \times 10^9/\text{mL}$), *L. fermentum* ($4.7 \times 10^9/\text{mL}$), and the synergy of all these three strains along with vegetables, and fruits. The ALT, AST, ALP, GGT, and bilirubin were considerably decreased ($p < 0.001$) in probiotics groups. The level of albumin was significantly increased ($p < 0.001$) in these groups. The probiotics treatment also notably improved the hematological parameters of rats. Furthermore, in the synergistic group the histopathological analysis has shown intact and well-organized liver cells with equal distribution, representing improved liver shape, and reduced damage. This study conclude that probiotic supplementation has decreased liver inflammation, fibrosis progression, and stimulated overall biochemical parameters normalization.