

Meld of Lactobacillus and Rangiferinus for Emendation of Endotoxemia in Alcoholic Liver Damage in Rats

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Abstract : Oxidative stress has been increasingly associated with the induction and progression of liver damage. The current study was conducted to record the effect of combination of Lactobacillus and Lichen rangiferinus extract (LRE + Lac) on the severity of injury in experimental alcoholic liver disease and how it affects plasma levels of prostaglandin E2, endotoxin, thromboxane B2, and leukotriene B4. Male Wistar rats were grouped into five comprising six animals in each group. Group 1 served as negative control. Groups 2-5 were administered 10% ethanol for six weeks. Group 3 was administered with extract (200 mg/kg), group 4 received the diet containing 10% ethanol plus a bolus of lactobacilli GG (1010 CFU), and group 5 animals were given silymarin along with alcohol and it served as positive control. Aspartate aminotransferase, alanine aminotransferase, alkaline phosphatase, total protein content, γ -glutamyltransferase, glutathione S-transferase, oxidative stress markers, glutathione, malondialdehyde and glutathione reductase were determined using standard diagnostic kits. Histopathological analysis of liver tissue was also made. A positive relation was found between plasma endotoxin levels and degree of liver injury. The pathology records were also related positively with leukotriene B4 and thromboxane B2. But a negative correlation was obtained with PgE2 levels. This study led us to hypothesize that the increased endotoxin levels modulate liver metabolism of eicosanoid, which gradually leads to liver injury. Endotoxemia increases leukotriene and thromboxane levels in plasma.

Keywords : lactobacillus, Lichen rangiferinus, endotoxemia, silymarin

Conference Title : ICCPPP 2017 : International Conference on Cardiovascular Pharmacology, Pharmacy and Pharmacognosy

Conference Location : Istanbul, Türkiye

Conference Dates : September 28-29, 2017