GLYCINE PREVENTS HEPATIC FIBROSIS BY PREVENTING THE ACCUMULATION OF COLLAGEN IN RATS WITH ALCOHOLIC LIVER INJURY

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We studied the effect of administering glycine, a non-essential amino acid, on liver collagen content and its characteristics in experimental hepatotoxic Wistar rats. All the rats were fed standard pellet diet. Hepatotoxicity was induced by orally administering ethanol (7.9 g kg\(^{-1}\)) for 30 days. Control rats were given isocaloric glucose solution. Glycine was administered subsequently at a dose of 0.6 g kg\(^{-1}\) po every day, along with alcohol for the next 30 days. Alcohol administration significantly elevated the levels of liver hydroxyproline and total collagen content, cross-linked fluorescence, shrinkage temperature and lipid peroxidation, whereas it significantly decreased the solubility of liver collagen as compared with the control rats. Simultaneous glycine supplementation to alcohol-fed rats significantly reduced the levels of liver hydroxyproline and total collagen content, cross-linked fluorescence, shrinkage temperature and lipid peroxidation and enhanced the solubility of liver collagen as compared with the unsupplemented alcohol-fed rats. In conclusion, administration of glycine had a positive influence both on the quantitative and qualitative properties of hepatic collagen in alcoholic liver injury.

Key words: collagen, cross-linking, ethanol, glycine, lipid peroxidation, shrinkage temperature

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