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Efficacy of Silymarin and Curcumin on dimethyl nitrosamine induced liver fibrosis in rats (2006) *Biomedicine*, 26 (3-4), pp. 18-26.

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Abstract

The efficacy of Silymarin and Curcumin treatment in preventing biochemical and histological alterations in DimethylNitrosamine (DMN) induced liver fibrosis in rats was studied. Six groups chosen for the study were control, Silymarin, Curcumin, DMN treated, DMN and Silymarin treated, DMN and Curcumin treated. All animals were sacrificed 72hrs after the end of treatments. The activities of Aspartate Transaminase (AST), Alanine Transaminase (ALT), Bilirubin, Glucose 6 phosphatase (G6Pase) and Triglycerides (TG) content were determined. Na⁺K⁺ATPaSe and Ca⁺⁺ ATPase activities were measured in isolated plasma membranes. Lipid peroxide and triglyceride content were measured in liver homogenates. Liver fibrosis was evidenced by significant increase in liver collagen and lipid peroxidation, increased activities of Aspartate Transaminase (AST), Alanine Transaminase (ALT), glucose 6 phosphatase (G6Pase), Bilirubin levels and liver triglycerides. ATPase activities were significantly reduced in plasma membranes. Immunohistochemical staining of α -smooth muscle actin a marker for activated stellate cells were vivid during DMN induction and treatment with Silymarin and Curcumin decreased the α -smooth muscle actin, which showed absence of activated stellate cells. Both Silymarin and Curcumin treatment completely reversed all the changes observed in DMN induced fibrotic rats. The protective effects of Silymarin and Curcumin can be attributed to their antioxidants and membrane stabilizing actions. The results clearly exhibit potential antiproliferative and antifibrogenic effects of Silyarin and Curcumin. © Publication of Indian Association of Biomedical Scientists.

Author Keywords

Curcumin; DMN; Hepatic fibrosis; Hepatic stellate cells; Silymarin

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