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Antifibrotic effects of green tea

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Several studies have shown that lipid peroxidation stimulates collagen production in fibroblasts and hepatic stellate cells (HSC), and plays an important role in the development of liver fibrosis. Hepatoprotective effects of green tea against carbon tetrachloride, cholestasis and alcohol induced liver fibrosis were reported in many studies. However, the hepatoprotective effect of green tea in dimethylnitrosamine (DMN)-induced models has not been studied.

A research article published on November 7, 2009 in the *World Journal of Gastroenterology* addresses this question. The research team, led by Prof. Hong-Yon Cho from Korea University examined the protective effect of green tea extract (GT) on hepatic fibrosis in a rat HSC line and in a rat model of DMN-induced hepatic fibrosis.

The results showed GT administration prevented the development of hepatic fibrosis in the rat model of DMN-induced liver fibrosis. These results were confirmed both by liver histology and by quantitative measurement of hepatic hydroxyproline content, a marker of liver collagen deposition. Accordingly, inhibition of proliferation, reduced collagen deposition, and type 1 collagen expression were observed in activated HSC-T6 cells following GT treatment. These results imply that GT reduced the proliferation of activated HSC and down regulated the collagen content and expression of collagen type 1, thereby ameliorating hepatic fibrosis.

The researchers drew a conclusion that green tea may protect liver cells and reduce the deposition of collagen fibers in the liver. Green tea

provides a safe and effective strategy for improving hepatic fibrosis.

More information: Kim HK, Yang TH, Cho HY. Antifibrotic effects of green tea on in vitro and in vivo models of liver fibrosis. World J Gastroenterol 2009; 15(41): 5200-5205, www.wjgnet.com/1007-9327/15/5200.asp

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