POST TREATMENT WITH SILYMARIN REDUCES THE DEGREE OF ALPHA-NAPHTHYLISOTHIOCYANATE-INDUCED LIVER INJURY.

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Previous studies in our laboratory have demonstrated that pre-treatment with Silymarin (polyphenolic flavonoid derived from milk thistle seeds) is protective against the neutrophil-dependent hepatotoxicity of alpha-naphthylisothiocyanate (ANIT) in rodents. This hepatotoxicity is manifested as plasma elevations of hepato-specific enzymes, hepato-cellular necrosis, and a pronounced influx of neutrophils. Conversely, the effect of Silymarin post-treatment on ANIT-induced liver injury requires further elucidation. Thus, the present study was designed to test the hypothesis that post-treatment with Silymarin reduces the degree of ANIT-induced liver injury. Male Sprague Dawley rate received 120 mg/kg (oral) at either 0, 6, 12, 18, or 24 hours after ANIT administration. Twenty-four hours after the administration of ANIT, plasma samples were collected, processed and analyzed for markers of hepatic injury. Elevation in plasma levels of aspartate aminotransferase (AST), alanine aminotransferase (ALT), and gamma-glutamyltranspeptidase (GGT) were used as the specific markers of ANIT-induced hepatotoxicity. Post-treatment with 50 mg/kg Silymarin afforded a modest degree of hepato-protection as indicated by plasma elevations of AST, ALT, and GGT. These data suggest that post-treatment with Silymarin affords a modest degree of protection against the hepatotoxicity of ANIT. (Suppprted by NIH Grant RR11606-5)