

**Effects of lotus extract on acetaminophen-induced hepatic inflammation**

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Acetaminophen (APAP) is commonly used as an antipyretic agent, although this side effect, i.e., hepatic injury, is so severe. It has been reported that lotus shows the anti-inflammatory and anti-cytoprotective actions. This study evaluates effects of lotus extract on APAP-induced hepatic inflammation.

Seven-week-old male ICR mice were orally administered lotus extract or saline (10mL/kg) once a day for a week. Twenty-four hours after the last pretreatment, the mice were intraperitoneally injected with 200 mg/kg APAP or saline under fasting conditions. The mice from each group were anesthetized and taken blood sample for plasma analysis 4 h after the injection. The expression levels of inflammatory cytokines in liver were measured by real-time RT-PCR. For histological analysis, the liver lobe was perfused with mildform and embedded in O.C.T compound. Embedded tissues were sectioned at 10  $\mu$  m. Sections were stained with TUNEL.

Pretreatment with lotus extract significantly decreased hepatic GOT/GPT levels and inflammatory cytokines (TNF- $\alpha$ , IL-6 and IL-1 $\beta$ ) induced by APAP. As the result of histological analysis and TUNEL staining, anti-inflammation and anti-apoptotic effects were observed with the lotus extract.

These results suggest that the prophylactic treatment of lotus extract protects the APAP-induced hepatic inflammation.