

## **THE ROLE OF SILYMARIN ON SHORT-TERM ALCOHOL-INDUCED PLASMA AND HEPATIC LIPID PEROXIDATION**

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**BACKGROUND/AIMS:** We studied the role of silymarin on 12-week alcohol- and CCl<sub>4</sub>-induced liver injury.

**METHODS:** Fifty Wistar rats were assigned as control group, ethanol group (E; Liber-Decarli liquid diet), ethanol and silymarin group (ES; silymarin 200 mg/kg/day), CCl<sub>4</sub> group (CCL; 0.75 mL/kg/wk of 40% CCl<sub>4</sub> intraperitoneal injection) and CCl<sub>4</sub> and silymarin group (SCCl).

**RESULTS:** At 12 weeks, E ( $34 \pm 3$  iu/L), ES ( $44 \pm 6$  iu/L), CCL ( $1108 \pm 302$  iu/L) and CCLS ( $572 \pm 135$  iu/L) had higher ALT levels than the control group ( $23 \pm 1$  iu/L,  $p < 0.05$ ). E ( $14.4 \pm 0.8$ ,  $57.5 \pm 1.9$ ), ES ( $15.1 \pm 1.1$ ,  $64.4 \pm 2.3$ ), CCL ( $13.0 \pm 1.2$ ,  $38.2 \pm 2.6$ ) and CCLS ( $14.1 \pm 1.5$ ,  $45.0 \pm 2.5$ ) had lower erythrocyte and hepatic GSH/GSSG ratios than the control group ( $17.2 \pm 1.1$ ,  $87.7 \pm 2.1$ ,  $p < 0.05$ ). E ( $64.2 \pm 2.5$   $\mu\text{g/g}$ ), ES ( $67.6 \pm 3.6$   $\mu\text{g/g}$ ), CCL ( $48.1 \pm 0.5$   $\mu\text{g/g}$ ) and CCLS ( $52.2 \pm 1.2$   $\mu\text{g/g}$ ) had lower hepatic vitamin E levels than the control group ( $93.4 \pm 3.6$   $\mu\text{g/g}$ ,  $p < 0.05$ ). E ( $11.7 \pm 0.3$   $\mu\text{M}$ ,  $4.1 \pm 0.2$   $\mu\text{M}$ ), ES ( $10.3 \pm 0.2$   $\mu\text{M}$ ,  $4.1 \pm 0.3$   $\mu\text{M}$ ), CCL ( $13.1 \pm 0.4$   $\mu\text{M}$ ,  $5.3 \pm 0.8$   $\mu\text{M}$ ) and CCLS ( $12.4 \pm 0.4$   $\mu\text{M}$ ,  $5.2 \pm 0.4$   $\mu\text{M}$ ) had higher plasma and hepatic thiobarbituric acid reactive substances (TBARS) than the control group ( $8.2 \pm 0.4$   $\mu\text{M}$ ,  $2.8 \pm 0.2$   $\mu\text{M}$ ,  $p < 0.05$ ).

**CONCLUSIONS:** Our data suggest that silymarin may improve hepatic GSH/GSSG ratio but not the plasma ALT levels and lipid peroxidation.

**Keyword:** alcohol, hepatitis, hepato-protection