



## Protective Effect of Wedelolactone on Acute D-Galactosamine-induced Acute Liver Injury in Mice

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**SUMMARY.** This study aimed to investigate the protective effect of wedelolactone on D-galactosamine-induced acute liver injury (ALI) in mice. Fifty mice were divided into normal, model and 5, 10, and 20 mg/kg wedelolactone groups, 10 mice for each group. The latter three groups were treated with 5, 10, and 20 mg/kg by intragastric administration, respectively, for consecutive days. Then, the D-galactosamine-induced ALI model was prepared in the latter four groups. Results showed that the wedelolactone pre-treatment could decrease the liver index, serum ALT, and AST levels, and liver tissue xanthine oxidase, malondialdehyde, nitric oxide, inducible nitric oxide synthetase (iNOS), interferon- $\gamma$  and tumor necrosis factor  $\alpha$  levels, and increase the liver tissue superoxide dismutase, glutathione peroxidase, interleukin 4 and interleukin 10 levels in ALI mice. In conclusion, wedelolactone has protective effect on acute D-galactosamine ALI in mice. The mechanism might be related to its resisting free radical damage and lipid peroxidation, inhibiting iNOS over-expression and regulating Th1/Th2 balance.

**RESUMEN.** Este estudio tuvo como objetivo investigar el efecto protector de la wedelolactona en la lesión hepática aguda (ALI) inducida por D-galactosamina en ratones. Cincuenta ratones se dividieron en grupos de wedelolactona normales, modelo y 5, 10 y 20 mg/kg, 10 ratones para cada grupo. Los últimos tres grupos fueron tratados con 5, 10 y 20 mg/kg por administración intragástrica, respectivamente, durante días consecutivos. Luego, el modelo ALI inducido por D-galactosamina se preparó en los últimos cuatro grupos. Los resultados mostraron que el pretratamiento con wedelolactona podría disminuir el índice hepático, los niveles séricos de ALT y AST, y los niveles de xantina oxidasa, malondialdehído, óxido nítrico, óxido nítrico sintetasa inducible (iNOS), interferón  $\gamma$  y factor de necrosis tumoral del tejido hepático, y aumentar los niveles de superóxido dismutasa de tejido hepático, glutatión peroxidasa, interleucina 4 e interleucina 10 en ratones ALI. En conclusión, la wedelolactona tiene un efecto protector sobre la D-galactosamina ALI aguda en ratones. El mecanismo podría estar relacionado con su resistencia al daño de los radicales libres y la peroxidación lipídica, inhibiendo la sobreexpresión de iNOS y regulando el equilibrio Th1 / Th2.

**KEY WORDS:** acute liver injury, protective, wedelolactone, D-galactosamine, mice

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