

Hepatoprotective Potential of Clitoria ternatea Leaf Extract Against Paracetamol Induced Damage in Mice

Type:

Article

Abstract:

Background and Aim: *Clitoria ternatea*, a medicinal herb native to tropical equatorial Asia, is commonly used in folk medicine to treat various diseases. The aim of the present study is to evaluate the hepatoprotective and antioxidant activity of *C. ternatea* against experimentally induced liver injury. **Methods:** The antioxidant property of methanolic extract (ME) of *C. ternatea* leaf was investigated by employing an established in vitro antioxidant assay. The hepatoprotective effect against paracetamol-induced liver toxicity in mice of ME of *C. ternatea* leaf was also studied. Activity was measured by monitoring the levels of aspartate aminotransferase (AST), alanine aminotransferase (ALT) and bilirubin along with histopathological analysis. **Results:** The amount of total phenolics and flavonoids were estimated to be 358.99 +/- 6.21 mg/g gallic acid equivalent and 123.75 +/- 2.84 mg/g catechin equivalent, respectively. The antioxidant activity of *C. ternatea* leaf extract was 67.85% at a concentration of 1 mg/mL and was also concentration dependant, with an IC(50) value of 420.00 μ g/mL. The results of the paracetamol-induced liver toxicity experiments showed that mice treated with the ME of *C. ternatea* leaf (200 mg/kg) showed a significant decrease in ALT, AST, and bilirubin levels, which were all elevated in the paracetamol group ($p < 0.01$). *C. ternatea* leaf extract therapy also protective effects against histopathological alterations. Histological studies supported the biochemical findings and a maximum improvement in the histoarchitecture was seen. **Conclusions:** The current study confirmed the hepatoprotective effect of *C. ternatea* leaf extract against the model hepatotoxicant paracetamol. The hepatoprotective action is likely related to its potent antioxidative activity.

Author	<ul style="list-style-type: none">• Nithianantham, K.• Shyamala, M.• Chen, Y.• Latha, L. Y.• Jothy, S. L.• Sasidharan, S.
Source	Molecules
ISSN	1420-3049
DOI	10.3390/molecules161210134
Volume (Issue)	16(12)
Page	10134-10145
Year	2011

Keyword:

Clitoria ternatea, paracetamol, hepatoprotective, antioxidant activity, induced liver-damage
in-vitro antioxidant, induced hepatotoxicity, aqueous extract, medicinal-plants, rats, injury

Please Cite As:

NITHIANANTHAM, K., SHYAMALA, M., CHEN, Y., LATHA, L. Y., JOTHY, S. L. &
SASIDHARAN, S. 2011. **Hepatoprotective Potential of Clitoria ternatea Leaf
Extract Against Paracetamol Induced Damage in Mice.** *Molecules*, 16, 10134-
10145.

URL:

- <http://apps.webofknowledge.com> search via Accession No >>000298411200026
- <http://www.ncbi.nlm.nih.gov/pubmed/22146374>
- <http://scholar.qsensei.com/content/1r4613>