

Role of acute administration of *Chelidonium majus* alone and in association with acetaminophen in rat liver

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Aerial parts of *Chelidonium majus* (CM) are used to treat liver and gallbladder disorders, however several cases of hepatotoxicity following use of CM preparations are reported (Moro et al, 2009). Previous studies showed that high doses of CM do not alter morpho-functional rat liver parameters (Mazzanti et al. 2009). We aimed to evaluate if the co-treatment of CM and sub-toxic doses of acetaminophen can induce rat liver damage. Rats were treated as follows: 1) received vehicle at 0, 12, 24, 36 and 37h; 2) received vehicle at 0, 12, 24, 36 vehicle and acetaminophen at 37h; 3) received CM at 0, 12, 24, 36 and vehicle at 37h; 4) received CM at 0, 12, 24, 36 and acetaminophen at 37h. 24 hours after last treatment animals were sacrificed and blood samples were collected to perform biochemical analysis and liver samples were underwent histomorphological and immunohistochemical examination. CM or acetaminophen did not alter body weight whereas total bilirubin, AST and ALT were slightly modified. Neither CM nor acetaminophen altered the hepatic structure while both substances induced a weak inflammatory cells infiltration. The co-administration of CM and acetaminophen did not modify the picture caused by the single treatments. Expression of α -SMA in hepatic stellate cells was negative in all experimental groups. In conclusion, the co-administration of *C. majus* and acetaminophen, does not have any synergistic effect in this experimental model. In humans, the safety of CM should be further monitored, taking into account the possibility of idiosyncratic reactions and/or other patient-related factors.

References

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