

Toxicological Features of *Catha edulis* (Khat) on Livers and Kidneys of Male and Female Sprague-Dawley Rats: A Subchronic Study

Type: Article

Abstract:

Hepato- and nephrotoxicity of Khat consumption (*Catha edulis* Forskal) have been evoked. Therefore, this study was conducted to evaluate such possible hepatorenal toxicity in female and male Sprague-Dawley rats (SD rats) focusing primarily on liver and kidney. In addition, female and male rats were investigated separately. Accordingly, forty-eight SD-rats (100-120 g) were distributed randomly into four groups of males and female (n = 12). Normal controls (NCs) received distilled water, whereas test groups received 500 mg/kg (low dose (LD)), 1000 mg/kg (medium dose (MD)), or 2000 mg/kg (high dose (HD)) of crude extract of *Catha edulis* orally for 4 weeks. Then, physical, biochemical, hematological, and histological parameters were analyzed. Results in Khat-fed rats showed hepatic enlargement, abnormal findings in serum aspartate aminotransferase (AST), and alkaline phosphatase (ALP) of male and female SD-rats and serum albumin (A) and serum creatinine (Cr) of female as compared to controls. In addition, histopathological abnormalities confirmed hepatic and renal toxicities of Khat that were related to heavy Khat consumption. In summary, Khat could be associated with hepatic hypertrophy and hepatotoxicity in male and female SD-rats and nephrotoxicity only in female SD-rats.

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