

عنوان مقاله:

Evaluation of the in vivo and in vitro safety profile of Cuscuta epithimum ethanolic extract

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خلاصه مقاله:

Objective: Cuscuta epithimum (CE) is one of the most popular medicinal plants in the world. However, detailed information about its toxicity is not available. Hence, this study aimed to evaluate the safety profile of CE ethanolic extract in vitro and in vivo. **Materials and Methods:** The extract's in vitro toxicity profile was investigated on normal fibroblast and cervical cancer cells by cytotoxicity test. In the next step, acute oral and intraperitoneal (i.p.) toxicity of the CE extract was evaluated in Wistar rats and BALB/c mice, respectively. Sub-acute oral toxicity was also examined by administering repeated oral doses of the CE extract (50, 200, and 500 mg/kg) to Wistar rats for 28 days. **Results:** The CE extract exhibited a significant cytotoxicity on both normal (IC₅₀ 0.82 mg/ml, p<0.001) and cancer cells (IC₅₀ 1.42 mg/ml, p<0.001). Acute oral administration of a single dose of CE extract (175-500 mg/kg) did not cause mortality; however, its i.p. administration caused mortality at doses greater than 75 mg/kg (i.p. LD₅₀ 154.8 mg/kg). In the sub-acute toxicity test, no significant effects in terms of weight change, organ weights, blood chemistry, or kidney pathology were observed. However, at 200 and 500 mg/kg doses, the CE extract significantly increased liver pathological scores compared to the control group (p<0.05 and p<0.01, respectively). **Conclusion:** CE exhibited toxicities in i.p. acute and repeated oral dose administrations. It showed identical cytotoxicity against normal and cancer cells. This herb must be prescribed cautiously by traditional medicine practitioners

کلمات کلیدی:

acute toxicity, Cuscuta, Cytotoxicity, Dodder, Sub-acute toxicity

