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Evaluating protective effects of *Asperugo procumbens L* on hepatocellular carcinoma in rats**Mahsa Hosni**

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Asperugo procumbens L. has been used in Iranian traditional medicine to the treatment of liver diseases. This study evaluated the protective effects of the aqueous extract of *Asperugo procumbens L.* (AAP) against hepatocellular carcinoma (HCC) induced by diethylnitrosamine (DEN) in male Sprague-Dawley rats. HCC was induced in male rats according to the accepted protocol. Briefly, DEN was used as the initiator and 2-Acetylaminofluorene (2-AAF) as the promoter of hepatocarcinogenesis. Firstly animals fasted 96 hours and then re-fed as mitotic proliferative stimuli. After 24 hours re-feeding, rats were injected a single intraperitoneal (i.p.) dose of DEN (200 mg/kg body weight). Two weeks after DEN injection, rats received 14 daily oral dose of 2-AAF (30 mg/kg) for promoting hepatocarcinogenesis. AAP-treated rats received the extract intragastrically at three dose of 100, 200 and 400 mg/kg body weight two weeks before the administration of DEN and continued until 8 weeks. A significant decrease in serum markers of liver damage and hepatic carcinoma, including alfa-fetoprotein (AFP), gamma glutamyltranspeptidase (GGT), alanine transaminase (ALT), and aspartate transaminase (AST) were observed in AAP supplemented animals when compared to DEN-treated rats. In addition, AAP counteracted DEN-induced oxidative stress in rats illustrated by the restoration of reduced glutathione (GSH) and the reduction of malondialdehyde (MDA) levels in the liver. The results of morphological and histopathological staining of rat liver showed that AAP-treated animals have an almost normal histological architecture compared to HCC group. The present study provides evidence that *Asperugo procumbens L.* has a potential chemopreventive effect against liver cancer.

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