

عنوان مقاله:

The effects of crocin, mesalazine and their combination in the acetic acid-induced colitis in rats

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خلاصه مقاله:

Crocin, as a carotenoid compound of saffron, exerts a potent antioxidant property. Mesalazine is frequently used in the treatment of ulcerative colitis. This study investigated the effects of separated and combination treatments with crocin and mesalazine in a rat model of ulcerative colitis. Ulcerative colitis was induced by intra-colonic administration of acetic acid (۴.۰۰%, ۱.۰۰ mL) at ۸ cm proximal of the anus. Normal saline, acetic acid, crocin (۵.۰۰, ۱۰.۰۰ and ۲۰.۰۰ mg kg^{-۱}), mesalazine (۱۰۰ and ۳۰۰ mg kg^{-۱}) and crocin (۵.۰۰ mg kg^{-۱}) plus mesalazine (۱۰۰ mg kg^{-۱}) were administered after induction of colitis for eight days. Body weight, organosomatic index (OSI), macroscopic and microscopic evaluations of colon and measurement of malondialdehyde (MDA), superoxide dismutase (SOD), tumor necrosis factor-alpha (TNF-α) contents of colon tissue were determined on day eight after induction of colitis. Crocin (۱۰.۰۰ and ۲۰.۰۰ mg kg^{-۱}), mesalazine (۳۰۰ mg kg^{-۱}) and crocin (۵.۰۰ mg kg^{-۱}) plus mesalazine (۱۰۰ mg kg^{-۱}) significantly ($p < ۰.۰۵$) improved body weight and OSI and reduced macroscopic and microscopic scores. These treatments also significantly ($p < ۰.۰۵$) recovered the increased levels of MDA and TNF-α as well as the decreased level of SOD in colon tissue. Crocin and mesalazine did not produce significant effects in intact rats. Based on the results, it is concluded that crocin and mesalazine produced protective effects on colon tissue via antioxidant and anti-inflammatory actions. In addition, a synergistic effect was observed between crocin and mesalazine in attenuating ulcerative colitis.

کلمات کلیدی:

Crocin, mesalazine, Rats, Ulcerative Colitis

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