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Comparative study between angiotensin converting enzyme inhibitors and angiotensin receptor blockers on ulcerative colitis induced experimentally in rats

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Ulcerative colitis (UC) is one of chronic inflammatory diseases primarily affecting colon with unknown etiology.Some researches papers mentioned the possibility of the use of drugs that affect the angiotensin II in reducing the complication of ulcerative colitis. The aim of the present study is to evaluate the potential protective and therapeutic effects of captopril and valsartan on ulcerative colitis induced experimentally in rats using acetic acid.The results were assessed by histological assessment of colonic tissues and measurement of malondialdehyde (MDA), tumor necrosis factor (TNF-α), transforming growth factor (TGF-1β), angiotensin converting enzyme (ACE), reduced glutathione (GSH) and platelet activating factor (PAF)levels in colonic tissues.Oral pretreatment with captopril or valsartan in a dose of 30 mgkg-1 body weight for 2 weeks before induction of colitis(prophylactic groups) and continuously for 2 weeks after induction (therapeutic groups) significantly reduce MDA, TNF-α, PAF, TGF-1β & ACE levels in colonic tissues as compared to acetic acid control group.Also, a significant increase inGSH level was observed in colonic tissues. Captopril and valsartan attenuated the macroscopic and microscopic colonic damage induced by acetic acid.These results suggest that either captopril or valsartan may be effective as prophylactic or treatment of UC through inhibition of ACE and scavenging effect on oxygen-derived free radicals.

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