ANTI-INFLAMMATORY ACTION OF p-CHLORO-PHENYL-SELENOESTEROL IN EXPERIMENTAL COLITIS IN MICE

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Inflammatory bowel diseases (IBD) are a group of idiopathic, chronic and inflammatory conditions of the gastrointestinal tract. The etiology of IBD has been extensively studied however exact cause are not yet fully understood. This study aims to investigate the anti-inflammatory effect of p-chloro-phenyl-selenoesterol (PCS), selenium compound with anti-inflammatory properties, in a model of colitis induced by 2,4,6-trinitrobenzene sulfonic acid (TNBS) in mice. Mice were separated into four groups: Control; PCS; TNBS and TNBS+PCS. PCS (0.2 mg/kg; 10 ml/kg i.g.) was administered once a day for 9 consecutive days. At day 5 mice of groups TNBS and TNBS+PCS were submitted to experimental colitis induced by TNBS (2 mg/100µL 50% ethanol; intrarectally). At day 10 animals were euthanized. Weight, length, histological analyses and myeloperoxidase activity (MPO) of colon were evaluated. The serum levels of tumor necrosis factor alpha (TNF-α) and interleukin 6 (IL-6) were also assessed. Treatment with PCS reduced the clinical and histopathologic severity of TNBS-induced colitis, characterized by colon length reduction and increased colon weight and microscopic intestinal inflammation. The therapeutic effects of PCS in this model were associated with significant decrease in levels of pro-inflammatory cytokines TNF-α and IL-6 and decrease in MPO activity. This study has shown for the first time that treatment with PCS can prevent and improve experimental colitis in mice. This finding suggests that PCS could be a potential therapeutic agent for the treatment of patients with inflammatory bowel disease.

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