

عنوان مقاله:

L-Carnitine potentiates the anti-inflammatory and antinociceptive effects of diclofenac sodium in an experimentally induced knee osteoarthritis rat model

محل انتشار:

مجله علوم پایه پزشکی ایران، دوره 23، شماره 8 (سال: 1399)

تعداد صفحات اصل مقاله: 10

نویسندگان:

suzan khodir - *Medical Physiology Department, Faculty of Medicine, Menoufia University, Shebin El-Kom, Menoufia, Egypt*

Marwa Al-Gholam - *Anatomy and Embryology Department, Faculty of Medicine, Menoufia University, Shebin El-Kom, Menoufia, Egypt*

Heba R. Salem - *Medical Physiology Department, Faculty of Medicine, Menoufia University, Shebin El-Kom, Menoufia, Egypt*

خلاصه مقاله:

Objective(s): The aim of the present research is to investigate the efficacy of L-carnitine (LC) as a complementary therapy to diclofenac sodium (Dic) treatment in a mono-iodoacetate (MIA) induced knee osteoarthritis (OA) rat model, with respect to pain relief and the underlying pathology. **Materials and Methods:** Fifty adult male albino rats were randomly divided into five groups (n=10): Control, OA, OA/Dic, OA/LC, and OA/Dic+LC. Knee diameter and pain assessment tests were done weekly. After four weeks, serum malondialdehyde, reduced glutathione, interleukin 1- β , tumor necrosis factor-alpha, prostaglandin E2, and bone-specific alkaline phosphatase were measured. The injected knees were removed and processed for the histological and immunohistological study of matrix metalloproteinase-13 (MMP-13) and cyclooxygenase 2 (COX-2). Also, histological examination of dorsal root ganglia and calcitonin gene-related peptide (CGRP) expression in the spinal cord were assessed. **Results:** Treatment with Dic and/or LC significantly reduced knee swelling, improved pain-related behaviors, inflammatory and oxidative stress markers, attenuated the MIA-mediated histopathological alteration in the knee joint, and down-regulated expression of MMP-13 and COX-2 in the knee joint. It, also, significantly reduced CGRP expression, compared with the OA group. Dic+LC showed a better effect in improving some parameters than each treatment alone. **Conclusion:** LC plus Dic is a more effective therapy than Dic alone for OA treatment.

کلمات کلیدی:

CGRP COX, 2 L, carnitine MMP, 13 Osteoarthritis

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1038493>



