

عنوان مقاله:

Curcumin-loaded poly lactic-co-glycolic acid nanoparticles effects on mono-iodoacetate -induced osteoarthritis in rats

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خلاصه مقاله:

Curcumin has been found to be very efficacious against many different types of diseases. However, the major disadvantage associated with the use of curcumin is its low systemic bioavailability. In the present study the protective effects of curcumin-loaded poly lactic-co-glycolic acid nanoparticles (nanocurcumin) against mono-iodoacetate-induced osteoarthritis in rats was investigated. Mono-iodoacetate was injected into right knee joints to induce osteoarthritis. In experimental groups, ۱۴ days after injection of mono-iodoacetate, curcumin (۲۰۰ mg kg^{-۱}) and nanocurcumin (۲۰۰ mg kg^{-۱}) were gavaged, respectively, for two weeks. Then the rats were sacrificed and the right knee joints were removed and fixated in ۱۰% formalin for histological assessments. Cellularity and matrix staining were significantly increased in articular cartilage of curcumin-treated animals compared to mono-iodoacetate group ($p < ۰.۰۱$). These effects were significantly ($p < ۰.۰۱$) more in nanocurcumin-treated animals. These results suggested that administration of nanocurcumin prevented the structural changes of articular cartilage in mono-iodoacetate model of osteoarthritis in rats.

کلمات کلیدی:

Articular cartilage, curcumin, Mono-iodoacetate, Nanodrug, Rat

