



PPAR- γ agonist pioglitazone affects rat gouty arthritis by regulating cytokines

R.-C. Wang and D.-M. Jiang

Department of Orthopedics,
The First Affiliated Hospital of Chongqing Medical University, Chongqing, China

Corresponding author: D.-M. Jiang
E-mail: jdm571026@vip.163.com

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ABSTRACT. The objective was to study peroxisome proliferator-activated receptor gamma (PPAR γ) agonist pioglitazone regulation effect and its mechanism of expression of cytokines on acute gouty arthritis synovial in rats. Rats with unilateral ankle were injected with artificial monosodium urate (MSU) crystals to make the acute gouty arthritis model. Taking the synovium 48 h after the injection of MSU and using RT-PCR, we assessed the effect of pioglitazone (20 mg·kg⁻¹·day⁻¹, oral administration) on synovial expression, by detecting tumor necrosis factor- α (TNF- α), interleukin-1 β (IL-1 β), and interferon- γ (IFN- γ). The pioglitazone treatment group showed synovial expression of TNF- α , and IFN- γ was significantly lower than in the control group; the inhibition rates were 78.5 and 60.4%. The IL-1 expression difference was not statistically significant between the two groups. Pioglitazone has anti-inflammatory effects on acute gouty arthritis by inhibiting the expression of TNF- α and IFN- γ .

Key words: Peroxisome proliferator-activated receptor; Interleukin; Tumor necrosis factor- α ; Rats