# Anti-inflammatory activity of telmisartan in rat models of experimentally-induced chronic inflammation: Comparative study with dexamethasone


## Abstract

Recently, significant progress has been made through the application of peroxisome proliferator activated receptor-γ (PPAR-γ) agonists as anti-inflammatory drugs that are efficacious, relatively free of side effects, and can be used effectively for a long time. The present study was designed to evaluate the dose–response relationship of the anti-inflammatory activity of telmisartan in rat models of chronic inflammation. The study protocol includes four stages: First stage: 48 rats were allocated into eight groups, each containing six rats, for the study of the anti-inflammatory activity of different doses of telmisartan in rat model of formaldehyde-induced chronic inflammation. Second stage: six rats were used to study the anti-inflammatory activity of telmisartan (1.5 mg/kg) in combination with dexamethasone (0.5 mg/kg) in the same model. Third stage: 48 rats were allocated into eight groups, each containing six rats, for the study of the anti-inflammatory activity of telmisartan in rat model of cotton pellet-induced granuloma. Fourth stage: six rats were used to study the anti-inflammatory activity of telmisartan (1.5 mg/kg) when used as adjuvant with dexamethasone (0.5

mg/kg) in the same model. Telmisartan in a dose-dependent pattern (0.1, 0.2. 0.4, 0.6, 1.5, 3 mg/kg) significantly suppressed inflammation in rat models of formaldehyde-induced chronic inflammation and cotton pellet-induced granuloma. When combined with dexamethasone, telmisartan (1.5 mg/kg body weight) significantly suppressed inflammation in both models, which is significantly higher than all of the effects produced by other approaches of treatment when telmisartan used alone. In conclusion, telmisartan decreased formaldehyde-induced chronic inflammation and cotton-pellet induced granuloma in rats in a dose-dependent pattern. Therefore, it may be considered as a potential treatment for chronic inflammatory conditions in human.