

**Evaluation of the antifibrotic effect of fenofibrate and rosiglitazone on bleomycin-induced pulmonary fibrosis in rats.**

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**Source**

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**Abstract**

Idiopathic pulmonary fibrosis is the most prevalent chronic fibrosing lung disease. Peroxisome proliferator-activated receptors-gamma agonists provide potential therapy for fibrotic diseases of the lung. Peroxisome proliferator-activated receptors-alpha agonists may be helpful in the treatment of lung inflammatory diseases, however their therapeutic potential on the "fibro-proliferative" process and extracellular matrix accumulation in idiopathic pulmonary fibrosis has been less well studied. So, the present study was conducted to evaluate the anti-fibrotic effects of fenofibrate (peroxisome proliferator-activated receptors-alpha agonist) alone and in combination with rosiglitazone (peroxisome proliferator-activated receptors-gamma agonist) on lung injury induced by bleomycin administration. Oral administration of either rosiglitazone (5mg/kg/d) or fenofibrate (100mg/kg/d) for 14 days, attenuated the severity of bleomycin-induced lung injury and fibrosis through decreasing lung water contents, lung fibrotic grading, lung hydroxyproline contents and lung transforming growth factor-beta1 levels; with no significant difference between them. Combined low doses of rosiglitazone (1mg/kg/d) and fenofibrate (30mg/kg/d) provided more benefits than full separate doses of each on the deleterious effects accompanied bleomycin administration. These findings suggested the potential use of peroxisome proliferator-activated receptors-alpha ligands as anti-fibrotic agents in lung fibrosis. Additionally, the concurrent administration of fenofibrate and rosiglitazone in low doses has synergistic effect and enhanced the beneficial effects afforded by either fenofibrate or rosiglitazone.