


**Anti-inflammatory Effect of Pentoxifylline**

To the Editor:

We read with great interest the recent in vitro study by Tong and colleagues.1 We have some comments. First, the authors implicated the possibility of pentoxifylline as a therapeutic option for pulmonary sarcoidosis. A study2 has described that pentoxifylline has no severe side effects as compared with dexamethasone. However, as Tong et al3 introduced in their discussion, pentoxifylline induces a selective suppression of interleukin-2 and interferon-γ, T-helper type 1-derived cytokines.3 T-cells play a central role in cell-mediated immune responses through the production of type 1 cytokines, such as interferon-γ and interleukin-2. It has been reported that the suppression of T-helper type 1 function damages the host response to fungi.4 We should give careful consideration when using the agent, especially its long-term use in clinical stages, because it may lead to mycosis in patients.

In addition, we wonder if dexamethasone could not inhibit lipopolysaccharide-induced interleukin-1β expression in alveolar macrophages in the experiment by Tong et al.1 Glucocorticoids are potent inhibitors of immune response, inflammation, and endotoxic shock. This occurs, at least partly, through an inhibition of the synthesis of proinflammatory cytokines and chemokines.5–7 One of the target enzymes of glucocorticoids inhibition is interleukin-1β. Dexamethasone (10 nmol/L to 10 μmol/L) inhibits interleukin-1 messenger RNA in lipopolysaccharide-stimulated human monocytes in a dose-dependent fashion.8 Also, dexamethasone suppresses interleukin-1β gene expression in lipopolysaccharide-stimulated RAW 264.7 cells through the inhibition of the activation of transcription factors related to endotoxin such as nuclear factor-κB and activator protein-1.9 Other mechanisms may be present in lipopolysaccharide-induced interleukin-1 production in alveolar macrophages of patients with sarcoidosis.

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References


2 Ward A, Clissold SP. Pentoxifylline: a review of its pharmacodynamic and pharmacokinetic properties, and its therapeutic efficacy. Drugs 1987; 34:50–97


7 Lee SW, Tsou AF, Chan H, et al. Glucocorticoids selectively inhibit the transcription of the interleukin 1β gene and decrease the stability of interleukin 1β mRNA. Proc Natl Acad Sci U S A 1988; 85:1204–1208
