

Pulmonary Fibrosis**Researchers from University of Tokushima publish findings in pulmonary fibrosis**

2008 FEB 18 - (NewsRx.com) -- According to recent research from Tokushima, Japan, "Imatinib is an inhibitor of platelet-derived growth factor receptors. We have reported that treatment with imatinib inhibited bleomycin-included pulmonary fibrosis in mice."

"However, late treatment with imatinib had no effect. To clarify why imatinib had no antifibrotic effect when its administration was delayed, we focused on (xi-acid glycoprotein (AGP), because it was reported to bind imatinib and mediate drug resistance. The concentration of AGP in serum of mice and patients with idiopathic pulmonary fibrosis was measured by radial immunodiffusion testing. The effects of AGP in vitro were evaluated by assaying the growth of lung fibroblasts. We examined the combined effects of erythromycin (EM) or clarithromycin (CAM) on bleomycin-induced pulmonary fibrosis in mice. Addition of AGP abrogated imatinib-mediated inhibition of the growth of fibroblasts. However, treatment with EM or CAM restored the growth-inhibitory effects of imatinib. The elevated level of AGP was detected in serum and lung homogenates in bleomycin-exposed mice and reached a plateau on Day 14. Imatinib alone did not ameliorate pulmonary fibrosis when treatment was started on Day 15, whereas coadministration of imatinib and EM or CAM significantly reduced the fibrogenesis via inhibition of the growth of fibroblasts in vivo. Serum levels of AGP were higher in patients with idiopathic pulmonary fibrosis than in healthy subjects," wrote M. Azuma and colleagues, University of Tokushima.

The researchers concluded: "AGP is an important regulatory factor modulating the ability of imatinib to prevent pulmonary fibrosis in mice, and combined therapy with imatinib and EM or CAM might be useful for treatment of pulmonary fibrosis.'."

Azuma and colleagues published their study in *American Journal of Respiratory and Critical Care Medicine* (Role of alpha(1)-acid glycoprotein in therapeutic antifibrotic effects of imatinib with macrolides in mice. *American Journal of Respiratory and Critical Care Medicine*, 2007;176(12):1243-1250).

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