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Reversal of pulmonary fibrosis after gene therapy of human

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Abstract

Silicosis is a potentially fatal, irreversible pulmonary disease. The path physiology of silicosis is lung fibrosis induced by silica. Hepatocyte growth factor (HGF) is a potent antifibrotic protein that inhibits pulmonary fibrosis. So HGF gene therapy may be used in the treatment of silicosis. Here we show that pulmonary fibrosis of a patient with severe silicosis has been significantly reversed at 6 months after HGF gene therapy. Naked HGF plasmid was transfected into mesenchymal stem cells (MSC) derived from the patient. HGF-MSCs were resuspended in 50 ml 0.9% sodium chloride (NS) and infused to the patient. The symptoms and pulmonary function significantly improved at 2m after HGF-MSCs infusion. Lung CT and high-kV chest X-ray showed that silicon nodules had been partially absorpted at 5 months after treatment, better than before. No obvious discomfort after treatment has been found till now. HGF can significantly enhance the lung collagenase activity, which can effectively degrade collagen fibers, and our research proved that HGF gene therapy may be an effective and safe therapy for silicosis.

Biography

Born in August 1949, Chief Physician.Graduating from Guangzhou Medical College. He acts as member of the standing committee of Guangdong province cell biology Society. His diagnosis and treatment with cell therapy for occupational disease, has reached the leading domestic level.