

Department of Internal Medicine

Division of Rheumatology

Akio Yamada, *Professor*
Isamu Kingetsu, *Assistant Professor*

Daitaro Kurosaka, *Associate Professor*

General Summary

An internist must aim to practice patient-oriented medicine that is well grounded in medical science. Therefore, our department encourages its staff members to do basic and clinical research. Major fields of research are clinical and experimental immunology.

Research Activities

Clinical and experimental studies of autoimmune disease were performed.

1. Analysis of the effect of neovascularization inhibitors in animal models of rheumatoid arthritis

Several studies have reported the arthritis-inhibiting effects of neovascularization inhibitors in animal models of rheumatoid arthritis. We evaluated the effects of the neovascularization inhibitor endostatin in collagen-induced animal models of arthritis. Furthermore, we are analyzing the mechanism of the arthritis-inhibiting effects of endostatin.

2. Evaluation and analysis of synovial blood flow signals of patients with rheumatoid arthritis with power Doppler ultrasonography

To assess synovial neovascularization in patients with rheumatoid arthritis, we evaluated the synovial blood flow signals of patient's joints on power Doppler ultrasonography and analyzed their correlation with neovascularization-related factors (*e.g.*, vascular endothelial growth factor) in serum or disease activity.

3. Analysis of telomerase activity in peripheral blood mononuclear cells of patients with autoimmune disease

The activation of telomerase has recently been observed in healthy cells, including normal lymphocytes. An increase in telomerase activity is associated with the activation of lymphocytes. Much attention has been paid to the role of telomerase in immunocytes. We measured telomerase activity in peripheral blood mononuclear cells obtained from patients with autoimmune diseases, especially systemic lupus erythematosus.

4. Clinical studies aimed at standardizing immunosuppressant therapy for autoimmune disease

Many immunosuppressant drugs have been used to treat severe autoimmune diseases, such as amyopathic dermatomyositis with interstitial pneumonia, but the efficiency and treatment strategies of these drugs remain unclear. We have performed a clinical trial to establish a strategy for treating severe autoimmune diseases. Clinical studies aimed

at standardizing immunosuppressant therapy of autoimmune disease were performed.

Reviews and Books

Yoshida K, Kurosaka D, Kingetsu I, Hirai K, Yamada A. Pneumomediastinum in dermatomyositis itself is not a poor prognostic

factor: report of a case and review of the literature. *Rheumatol Int* 2008; **28**: 913-7.