

Department of Internal Medicine

Division of Rheumatology

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General Summary

An internist must aim to practice patient-oriented medicine that is well grounded in medical science. Therefore, our department encourages its staff 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 neovascularization inhibitor endostatin in animal models of collagen-induced arthritis. Furthermore, we are analysing the mechanism of arthritis inhibiting effects of endostatin.

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

To assess synovial neovascularization in patients with rheumatoid arthritis, we have evaluated the synovial blood flow signals on power Doppler ultrasonography in patients' joints and analyzed their correlation with factors related to neovascularization (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 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 disease, especially systemic lupus erythematosus.

4) Clinical studies aimed at standardizing immunosuppressant therapy of 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 strategy of these drugs have not been clarified. We have performed clinical trials to establish strategies for the treatment of severe autoimmune diseases. Clinical studies aimed at standardizing immunosuppressant therapy of autoimmune disease were performed.

Publications

Kurosaka D, Noda K, Yoshida K, Furuya K, Ukichi T, Takahashi E, Yanagimachi M, Kingetsu I, Saito S, Yamada A. Elevation of Bombina variegata

peptide 8 in mice with collagen-induced arthritis.
BMC Musculoskelet Disord 2009; **10**: 45.