induced arthritis in DBA/1J mice. Mice were immunized with type II collagen emulsified in Freund's complete adjuvant, followed by a booster injection 21 days later.
Chondroitin disaccharide, oligosaccharide and intact chondroitin sulfate at respective doses of 50, 300 and 1,200 mg/kg were administrated orally once daily beginning 14 days before initial immunization. The index of swelling and hind paw edema was significantly decreased in the group of treatment with chondroitin disaccharide and chondroitin oligosaccharide. Levels of anti-type II collagen antibodies, TNF-a and IL-6 in serum were shown the similar trends. It was also confirmed that chondroitin digestion products including chondroitin disaccharide and a mixture of oligosaccharides, have preventive and/or therapeutic effects compared to the group of arthritis control. The result was clearly demonstrated through histological evaluation of joint tissues.

[PA1-54] [10/18/2001 (Thr) 14:00 - 17:00 / Hall D]

Renal protective effect of Jahagur in STZ induced diabetic rats

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Jahagur(JHG) is an oriental medicine which has been used to treat woman's disease. We have studied the renal protective effect of JHG in STZ(75mg/kg in citrate buffer) induced diabetic rats. Rats were grouped and treated for 2 weeks as follow : control group was injected saline by s.c , treated groups were injected JHG by s.c , positive control group received captopril(CAP), 50mg/kg by oral administration. JHG did not lower plasma glucose level. JHG and CAP-treated rats exhibited lowered urinary albumin excretion and blood urea nitrogen, indicative of renal glomerular damage, as compare to the control. mRNA of TGF-β and protein of fibronectin in kidney were investigated. There were significant difference between control and treated group. We examined the morphology of glomerulus by H&E staining. From these results we may conclude that JHG showed the renal protective effect and it suppressed Fibronectin expression in kidney .

[PA1-55] [10/18/2001 (Thr) 14:00 - 17:00 / Hall D]

Comparative Study of KHU-1 and Simplified Prescription of KHU-1(KHU-2) in Ob/Ob mice

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KHU-1, which is on record in chinese ancient writings (Entrance to Medical Science), has been known as improvement in the functions of gastrointestinal tract and kidney. We had studied antidiabetic effect and mechanism of KHU-1 in male ZDF rats, KHU-1 had shown the excellent hypoglycemic activity. In these studies, we have tried to simplify prescription of KHU-1. The first stage, prescription was divided into 4 parts and anti-hyperglycemic activities of each part were investigated In high-fat diet induced diabetic mice. We prepared simplified prescription with just herbs which have hypoglycemic activity. Subsequently, we have made a comparative study of KHU-1and simplified prescription of KHU-1(KHU-2) in male Ob/Ob mice. Mice were grouped and treated for 9 weeks as follows : lean control (C57/BL6J black mice) and Ob/Ob control groups received powdered standard chow , KHU-1 group was fed with a diet of chow supplemented with 8 g/kg KHU-1 , KHU-2 group was fed with a diet of chow supplemented with 4 g/kg KHU-2(KHU-2 form 50% of KHU-1). KHU-2 lowered plasma glucose from a week after treatment and the hypoglycemic activity was superior to KHU-1. Total cholesterol, triglyceride, free fatty acid and LDL cholesterol were decreased and HDL cholesterol was increased similarly in KHU-1 and KHU-2-treated groups at the end of treatment. While the Ob/Ob control group showed elevated level of insulin and C-peptide concentration, KHU-1 and KHU-2-treated groups lowered insulin and C-peptide concentration respectively. In the mechanism study, mRNA and protein expression of GLUT-4 and PPAR-γ in muscle and epididymal fat were studied by RT-PCR and western blot. We have also investigated Insulin contents in pancreas by immunohistochemistry. We may suggest

that KHU-2 showed the excellent hypoglycemic activity and its effect was in no way inferior to KHU-1.

[PA1-56] [10/18/2001 (Thr) 14:00 - 17:00 / Hall D]

Hair-Growth Effect and Single dose Oral Toxicity Test of Illite Powder

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The hair-growth effect of Illite was suggested by some people who were using Illite as a beautifying material. We investigated the hair-growth effect of Illite powder. The hair-growth effects were investigated by two methods, the activity of hair-growth after shaving the hairs on the black mouse (C57BL/6) and the recovery activity of hair-growth after hair-loss induced by cyclophosphamide treatment. Suspension of Illite powder was administered to the back of the black mouse by method of skin paste. Illite promote significantly the hair growth of mouse in both conditions of shaving and hair-loss. And then we investigated the toxicity which may be induced by Illite when it was administrated orally as a single dose. we could not find out any significant toxicity induced by single dose oral administration of it.

[PA1-57] [10/18/2001 (Thr) 14:00 - 17:00 / Hall D]

Increasement of Susceptibility against Stress in Helicobacter pylori Infection and Protective Effect of Mucogen

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It is known that stress is imporant determining factor in *Helicobactr pylori*-infectious stomach-related disease. We surveyed degree of gastropathy and change of cytokine, chemokine, oxidative damage and inflammation-related transcription factor in *Helicobacter pylori*-infection experimentally animal models. We used Sprague-Dawley rat and Mongolian gerbil, and infected *Helicobacter pylori* (1×10^9 cfu/0.1 ml) with oral administration. After 24 weeks, we loaded stress to place inside cold water with each animal inserted stress cage. 30, 120 or 480 minutes later, animals were sacrificed and measured gross observation and histopathology. Compared *Helicobacter pylori* infection group to non-infection group, infection group significantly increased gastropathy in gross and microscopic observation score after stress-loaded 30, 120 or 480 minutes later, augmented IL-1β and TNF-α at 30 minutes, and IFN-γ at 120 minutes, significantly. To compared both infection and non-infection group, Mucogen treated group significantly reduced all cytokine and chemokine levels at each times and significantly increased HSP 60 and HSP 70 at each 120 minutes and 60 minutes. These results suggest that stress is one of the important factor in *Helicobacter pylori* infection-related gastropathy and Mucogen has significant therapeutic potential in the treatment of *Helicobacter pylori* infection added stress induced gastropathy.

[PA1-58] [10/18/2001 (Thr) 14:00 - 17:00 / Hall D]

The effect of Liriopis Tuber extracts on exercise performance and Blood fatigue elements in rats.

rhee in ja°, choi woneil, kim unjung, yang junho