EtOAc extract stimulates melanin secretion in B16/F10 melanoma cells by 140 % at 48 h treatment and activity of tyrosinase increased by 180% in the presence of same concentration.

[PA1-47] [10/18/2001 (Thr) 14:00 - 17:00 / Hall D]

The inhibitory effect of Quercetin-3-O-β-D-glucuronopyranoside on esophagitis and gastritis of rats

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This study was designed to determine anti-inflammatory effects of quercetin-3-O-β-D-glucuronopyranoside (QGC), which were isolated from *Rumex Aquaticus* leaves. We were investigated inhibitory action of QGC on reflux esophagitis and gastritis in rats. Esophagitis was induced by surgical procedure, and gastritis was produced by administration of indomethacin (50mg/kg). QGC administered intraduodenally protected dose-dependently the development of reflux esophagitis. QGC inhibited dose-dependently the gastric secretion. Thiobarbituric acid reactive substances in the gastric mucosa were increased, and this increase was inhibited by the administration of QGC. Exposure of the gastric mucosa to indomethacin induced a significant increase in size of gastric lesions, and this increase was reduced by administration of QGC. GSH-Px activity decreased in the gastric mucosa after administration of QGC. These results suggest that QGC has the inhibitory action of gastritis and esophagitis model in rats.

[PA1-48] [10/18/2001 (Thr) 14:00 - 17:00 / Hall D]

The inhibitory effect of Apigenin-O-7-β-D-glucuronopyranoside on esophagitis and gastritis in rats

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Apigenin-O-7-β-D-glucuronopyranoside (AGC) were isolated from *Clerodendron trichotomum* leaves. We investigates whether AGC inhibits reflux esophagitis induced by surgically as well as gastritis induced by exposure of indomethacin (50mg/kg) in rats. AGC administered intraduodenally, dose-dependently protected the development of reflux esophagitis. AGC inhibited dose-dependently the gastric secretion. AGC also inhibit gastritis index. Malonyldialdehyde content, the end product of lipid peroxidation, increased significantly after the induction of reflux esophagitis. These results suggest that can inhibit the development of esophagitis and gastritis in rats.

[PA1-49] [10/18/2001 (Thr) 14:00 - 17:00 / Hall D]

Antidiabetic Effect and Mechanisms of KHU-1 in ZDF rat

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KHU-1 is an oriental prescription, composed of 12 herbs, which has been used to treat a stroke. In recent years KHU-1 is also used for treating glycosuria by herbalists. We have studied the antidiabetic effect and mechanism of KHU-1 in male Zucker diabetic fatty(ZDF/GmiTMfa/fa) rats. Rats were grouped

and treated for 8 weeks as follows: control group received powdered standard chow, treated groups were fed with a diet of chow supplemented with KHU-1 either 2 g/kg or 5 g/kg body weight(b.w.), positive control group received rosiglitazone(RSG), 10 μmol/kg b.w. also administered via the diet. KHU-1 lowered plasma glucose in dose dependent manner from a week after treatment and the hypoglycemic activity was continued for 8 weeks. Triglyceride and free fatty acid were reduced in KHU-1(5 g/kg)-treated group. While the control group had a declining insulin concentration, KHU-1 treatment maintained or increased insulin level at the end of treatment. KHU-1 and RSG-treated rats also exhibited lowered urinary albumin excretion as compared to the control, indicative of renal glomerular damage. In the mechanism study, PPARγ mRNA and protein expressions in epididymal fat were increased in KHU-1-treated group, which was comparable to RSG-treated group. GLUT4 mRNA expressions in quardriceps muscle was also increased in KHU-1 and RSG-treated group. We have detected the expression of fibronectin, one of the ECM proteins, in kidney by immunohistochemistry. KHU-1 supressed protein expression of fibronectin in comparison with control. We have also investigated TGF-β mRNA expression in kidney and PEPCK mRNA expression in liver. There were no significant differences between control and treatment group in these parameters. From these result we may conclude that KHU-1 showed the excellent hypoglycemic activity and its mechanism was partially due to overexpression PPARγ in adipose tissue.

[PA1-50] [10/18/2001 (Thr) 14:00 - 17:00 / Hall D]

Hypoglycemic activity of KHU-3 in Ob/Ob mice

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KHU-3 has been known to be used for middle jiao of xiao-ke based on the traditional Korean acient writings (dongeuibogam) and composed of three crude herbs. In male Ob/Ob mouse which is characterized by severe obesity, hyperinsulinemia and insulin resistance, features of NIDDM, the hypoglycemic activities and mechanisms of KHU-3 were examined. Mice were grouped and treated for 9 weeks as follows : lean control (C57/BL6J black mice) and Ob/Ob control groups received standard chow , treated groups were fed with a diet of chow supplemented with KHU-3 either 5 % or 10 % of total chow. KHU-3 lowered body weight and plasma glucose in dose dependent manner from a week after treatment and the hypoglycemic activity was continued for 9 weeks. Total cholesterol, triglyceride, free fatty acid and LDL cholesterol were decreased and HDL cholesterol was increased in KHU-3 treated groups at the end of treatment. KHU-3 also lowered HbA1c level by 1 % compared as Ob/Ob control. While the Ob/Ob control group showed sever high insulin and C-peptide concentration, KHU-3 treated groups lowered insulin and C-peptide concentration in dose dependent manner. In the mechanism study, quantification of mRNA and protein expression for glucose transpoter (GLUT-4) in muscle and peroxisome proliferator activated receptor γ (PPAR-γ) epididymal fat were performed by RT-PCR and western blot. We have also investigated Insulin contents and secretions of β-cell in pancreas by immunohistochemistry. We may suggest that KHU-3 showed the excellent hypoglycemic activity and antidiabetic activities due to reducing hyperinsulinemia and insulin resistance throught affecting gene and protein expressions of fat PPAR-γ, muscular GLUT-4.

[PA1-51] [10/18/2001 (Thr) 14:00 - 17:00 / Hall D]

Higenamine reduces infarct size and myocardial ischemic injury by modulation of immune cytokines

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Recent studies have shown that cytokines are capable of modulating cardiovascular function and that