diseases such as peptic ulcer and oral diseases such as periodontitis. Bamboo salt is a processed salt invented by a Korean guru in oriental medicine, IL-Hoon Kim, who modified the Korean traditional bamboo salt recipe extensively. At present, it is widely accepted that garlic and bamboo-salt are useful for the treatment of gastric hyperacidity, gastritis, peptic ulcer and gastric cancer as an alternative medicine in Korea. To understand the protective mechanism of the garlic-bamboo salt mixture, the gastritis was induced in rats with alcohol-salicylate and the inhibitory effect of type conversion on xanthine oxidase(XO) and the acitivites of the free radical scavenging enzymes including glutathione peroxidase(GPx), glutathione reductase(GR) and superoxide dismutase(SOD), with the changes of total glutathione(GSH) contents were examined. In this study, we found that the garlic-bamboo salt mixture reduce the severity of hemorrhagic lesion in gastric mucosa in the rats. In addition, the increment of type conversion from xanthine dehydrogenase(XD) to xanthine oxidase(XO) and the change of the XO activity in gastric tissue was significantly reduced and the activities of GPx, GR, SOD were significantly increased and the total content of GSH was recoverd. From these results, we concluded that the protective effect of the garlic-bamboo salt mixture is its ability to decrease XO type conversion and to increase the activities of the free radical scavenging enzymes(GPx, GR, SOD) and to recover the level of GSH in the rats with the alcohol-salicylate induced gastritis.

[PA1-24] [10/19/2000 (Thr) 10:00 - 11:00 / [Hall B]]

Characterization of anti-angiogenic Activity from Holotrichia diompharia

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Holotrichia diompharia (Melolonthidae) has been used as a folk medicine due to its wide action. It was previously found that the ethanolic extract of *H. diompharia*(EEH) showed anti-angiogenic activity in chorioallantoic membrane(CAM) assay. In order to obtain the most active fraction, EEH was extracted in turn with n-hexane, ethyl acetate, and butanol and each fraction was evaluated on the capacity to inhibit angiogenesis *in vivo* and *in vitro*. The results revealed that BuOH and aqueous fractions had significant anti-angiogenic activity in chick embryo CAM assay. Also, these fractions inhibited basic fibroblast growth factor(bFGF)-induced proliferation of calf pulmonary artery endothelial(CPAE) cells, which is the stage of the early angiogenesis. Thus, their anti-angiogenic activity was estimated to be due to inhibition of the proliferation of vascular endothelial cell.

[PA1-25] [10/19/2000 (Thr) 10:00 - 11:00 / [Hall B]]

Anti-inflammatory Effects of Kalopanax pictus Bark and Its Fractions

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The bark of Kalopanax pictus Nakai (Araliaceae) has been using for anti-inflammation in folklore of Korea. It is observed that the 70% methanol extract of the plant bark showed inhibition of vascular permeability in mice (1~3 g/kg, p.o.), of leucocyte emigration in CMC-pouch (0.15~0.3 g/rat, s.c.) and anti-writhing action (3 g/kg, p.o.) in mice, but did not show depression of the edema induced by carrageenin in rats (0.25~3 g/kg, p.o.). It also did not show analgesic effect in Randall-Selitto method in rats. The methanol extract was then partitioned with n-hexane, CHCl3, EtOAc and n-BuOH to give each soluble fraction and finally water soluble fraction. Among the fractions, the inhibitory effect on vascular permeability in mice was shown in EtOAc soluble

fraction.

[PA1-26] [10/19/2000 (Thr) 10:00 - 11:00 / [Hall B]]

Anti-obesity and Hypolipidemic Action of Leaves of Mulberry(Morus alba L.)

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Leaves of mulberry (Morus alba L.) have been traditionally reported to have anti-obesity effects in Oriental medicine. The present study was undertaken to investigate whether the obesity of obese Zucker (fa/fa) rats can be ameliorated by the oral administration of methanol extracts of mulberry leaves.
The weight of the whole body and adipose tissue, food intake, uncoupling protein-2 (UCP2) expression, and plasma levels of triglyceride, LDL, HDL, and insulin were measured in obese Zucker rats administered with methanol extracts of mulberry leaves (125 mg/kg, twice daily) for 3 weeks. These were then compared with those of control group administered with physiological saline solution.
Obese Zucker rats treated with methanol extracts of mulberry leaves, compared with those administrated with saline, weighed significantly less, and had lower liver weight. Animals that received methanol extracts of mulberry leaves showed less food consumption than those administered with saline. Also, extracts of mulberry leaves enhanced the expression UCP2 in brown adipose tissue (BAT) and liver, while decreasing plasma levels of cholesterol and triglyceride.
Oral administration of methanol extracts of mulberry leaves for 3 weeks has been shown to exert anti-obesity and hypolipidemic effects in obese Zucker rats. The extracts not only increased UCP2 expression in BAT and liver, but also reduced food intake and plasma levels of cholesterol and triglyceride, which contributed to mitigation of obesity. These results suggest that leaves of mulberry may be used as an effective crude drug for the treatment of obesity.

[PA1-27] [10/19/2000 (Thr) 10:00 - 11:00 / [Hall B]]

The mechanism of ceramide-induced circular smooth muscle cells contraction in feline esophagus.

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It has been shown that C_2-ceramide (C_2) plays a role in mediating contraction of ileal rabbit. In this study, we have investigated the mechanism of C_2 -induced circular smooth muscle cell contraction in feline esophagus. C_2 produced contraction of smooth muscle cells isolated by enzymatic digestion,peaked at 30sec and reached the maximal response at 10^{-7} M. C_2-induced contraction was inhibited by PLC inhibitor, neomycin, not by PLA_2 inhibitor,DEDA and not by PLD inhibitor, pCMB. We investigated that whether protein kinase C (PKC) or protein tyrosine kinase (PTK) pathway involved in the contraction by C_2. H-7, chelerythrine (PKC inhibitors) and genistein (PTK inhibitor) inhibited C_2-induced contraction. PKCεantibody inhibited the contraction by C_2. To examine which MAP kinases is involved in ceramide-induced contraction, specific MAP kinase inhibitors (MEK inhibitor, PD98059, and p38 MAP kinase inhibitor, SB202191) are used. Preincubation of PD98059 blocked the contraction induced by C_2 in a concentration dependent