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Dalwoneum is the one of Chinese traditional prescription used for the treatment of liver disease. This prescription consists of Arecae Semen (12 g), Magnoliae Cortex (9 g), Amomi tsao-ko Fructus (3 g), Anemarrhenae Rhizoma (12 g), Paeoniae Radix (9 g), Scutellariae Radix (12 g), and Glycyrrhizae Radix (3 g). Water extract of Dalwoneum showed the significant hepatoprotective effect on tacrine-induced cytotoxicity in Hep G2 cells. Hepatoprotective effect of the constituent crude drugs of this prescription was performed. Water extracts of three crude drugs including Arecae Semen, Scutellariae Radix, and Magnoliae Cortex exhibited the significant hepatoprotective effects in vitro. It is also suggested that three flavones, wogonin, oroxylin A and skulleapflavone I, take part in its biological activity.

[PD3-7] [04/18/2003 (Fri) 13:30 - 16:30 / Hall P]

The Anti-inflammatory and Analgesic Activities of CML-Ex

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The CML-Ex is a traditional oriental medicine. The main constituents of CML-Ex are Rehmanniae Radix, Achyranthis Radix and Eucommiae Cortex. The objective of this study was to investigate the anti-inflammatory and analgesic activities of CML-Ex under various acute and chronic inflammatory and analgesic models. The drug was orally administered at 30, 100, 300 and 600 mg/kg body weight. The anti-inflammatory activities were evaluated by carrageenan-induced hind paw edema, carrageenan-induced granuloma, vascular permeability and adjuvant-induced arthritis tests, and the analgesic activities were evaluated by acetic acid-induced writhing syndromes, Randall-Selitto assay and hot-plate test. The vascular permeability was significantly inhibited by CML-Ex 30, 300, and 600 mg/kg. Granuloma formation induced by 2% carrageenan was significantly inhibited by CML-Ex 300 and 600 mg/kg. The swelling of rat hind paw induced by 1% carrageenan was significantly inhibited by CML-Ex 100, 300 and 600 mg/kg. Adjuvant-induced arthritis was significantly inhibited by CML-Ex 300 mg/kg. However, CML-Ex did not affect acetic acid-induced writhing syndrome, Randall-Selitto assay and hot-plate test. Our findings suggest that CML-Ex has a potent anti-inflammatory activity.

[PD3-8] [04/18/2003 (Fri) 13:30 - 16:30 / Hall P]

Sedative Effects of the Essential Oil from *Acorus gramineus* upon Inhalation

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The present study was designed to evaluate central inhibitory effects of an essential oil from Acori graminei Rhizoma (AGR), the dry rhizomes of Acorus gramineus Solander (Araceae) upon fragrance inhalation (aroma therapy). Preinhalation of an essential oil of AGR markedly delayed the appearance of pentylenetetrazole-induced convulsion. Furthermore, the inhalation of an

essential oil of AGR impressively inhibited the activity of γ-aminobutyric acid (GABA) transaminase, a degradating enzyme for GABA as inhalation period is lengthened. The GABA level was significantly increased and glutamate content was significantly decreased in mouse brain by the preinhalation of an essential oil. Above results suggest that anticonvulsive effect of an essential oil of AGR is originated by the enhancement of GABA level in the mouse brain, because convulsion depends partially on GABA concentration which can be properly preserved by inhibiting GABA transaminase. Moreover, fragrance inhalation progressively prolonged the pentobarbital-induced sleeping time as inhalation time is lengthened. Ten hour inhalation corresponded almost to the effect (145% increase) of oral administration (60 mg/kg). This sedative effect after inhalation or oral administration of the essential oil suggests that the essential oil of AGR may act on the CNS via the GABAergic system. The inhibitory activity of preinhalation of an essential oil on lipid peroxidation, which is attributable to the anticonvulsive action, also supported above results, confirming and extending our previous reports on the CNS inhibitory effects of AGR

[PD3-9] [04/18/2003 (Fri) 13:30 - 16:30 / Hall P]

Effect of bioconversioned ginseng and its butanol fraction on adenine-induced renal failure in rats

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To elucidate the effect of bioconversioned ginseng(Sun ginseng) and its butanol fraction on adenine-induced renal failure, rats were fed *ad libitum* on diet containing 0.75% adenine for 20 days to induce renal failure, and bioconversioned ginseng was orally administrated during the feeding period. On days 10 and 20, BUN, Creatinine, Ca and P contents were analyzed in serum and urine, and on days 20, blood pressure, heart pulse and relative kidney weight were measured. In conclusion, those parameters had significant changes in the both bioconversioned ginseng and its butanol fraction treated groups on comparison with nontreated groups.

[PD3-10] [04/18/2003 (Fri) 13:30 - 16:30 / Hall P]

INDUCTION OF GROWTH HORMONE RELEASE BY GLYCYRRHIZAE RADIX

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The aim of this study was designed to determine the induction of rat growth hormone(rGH) by extracts of a popular herb, Glycyrrhizae radix(GR), roots of *Glycyrrhiza glabra* $_{\text{Linne}}$, and *Glycyrrhiza uralensis* $_{\text{Fischer}}$. *In vitro* study was carried out using primary rat pituitary cell culture for 3 days and then was treated with methanol extract corresponding to 1 mg of dried weight of herb per 1 ml of culture solution. The supernatant was recovered and induced rGH level was evaluated by RIA method. Its major components - glycyrrhizin, glycyrrhetinic acid, isoliquiritigenin, formononetin, liquiritigenin, liquiritigenic acid, and glabrolide which were isolated and purified from GR - were tested in 10 μg/ml following above methods. In results, the herbal extract increased rGH level up to 2.87±0.7 fold ($p<0.05$) comparing to that of basal level and