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Both of Semen (OF-Se) or stem (OF-St) of *Opuntia ficus-indica* Semen have been used as a healthful food or folk medicine in Korea for the treatment of asthma, diabetes mellitus, aging, osteoporosis, rheumatic arthritis, constipation, cancer, gastric ulcer, constipation, toxic state, edema, etc. There are many reports that OF have the anti-gastric damage, wound healing, diabetes mellitus, monoamine oxidase B inhibitor etc. They have some flavonoids, phenolics, ascorbic acid, calcium, plant fiber, etc., but their pharmacological active agents are unknown. In this experiments, for the activity-guided separation of OF-Se on anti-inflammatory and anti-asthmatic actions, H₂O (yield, 3.03%) extracts and MeOH extract (yield, 1.51%) from flesh and dried OF-Se were obtained and their anti-inflammatory action were studied in the carageenan-induced paw edema (CPE) and arachidonic acid-induced ear edema (AEE), and HAc-induced writhing syndrome (HWS). Their anti-asthmatic activity were carried out to determine the specific airway resistance (sRaw) at the early-phase asthmatic response (EAR) and late-phase asthmatic response (LAR) at the ovalbumin-sensitized guinea pigs in the double-chambered plethysmograph and recruitments of leukocytes, eosinophils, histamine, phospholipase A₂, in bronchoalveolar lavage fluid (BALF). It shows that H₂O and MeOH extract at a dose of 50 and 100 mg/kg has significant anti-inflammatory action in CPE and at a painting dose of 0.2 and 1.0 mg/ear in AEE, respectively. H₂O and MeOH extract at a dose of 50 and 100 mg/kg has significant analgesic action in HWS. But they have no effects in asthmatic guinea pigs. These result indicated that anti-inflammatory activity of H₂O extract have two times more than MeOH extracts.

[PB2-4] [10/17/2002 (Thr) 13:30 - 16:30 / Hall C]

Anti-inflammatory agents of *Gastrodia elata* Rhizoma fractions

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From 4 fractions as n-hexane (yield, 0.09%), EtOAc (0.48%), BuOH (3.0%) and H₂O (5.17%) fraction from MeOH extract (11.64%) of powdered *Gastrodia elata* Rhizoma (GER) for the activity-guided separation on anti-inflammatory action, some biological active agents were isolated by column chromatography (column, silica gel : elution solvent, CHCl₃ : MeOH) according to the method of Junko Hayashi et. al. and Heihachiro Taguchi et. al. Compound I, II, III, IV, V as phenolic derivatives were isolated in the EtOAc and BuOH fractions. Anti-inflammatory actions of fractions and constituents from MeOH extract of GER were studied in the carageenan-induced paw edema (CPE) and arachidonic acid-induced ear edema (AEE), and HAc-induced writhing syndrome (HWS). It shows that MeOH extract at a dose of 100mg/kg has significant anti-inflammatory action in CPE and at a dose of 0.2mg/ear in AEE, and their EtOAc, BuOH and H₂O fractions inhibited significantly CPE at a oral dose of 2, 3 and 5 mg/kg, and also inhibited significantly AEE at a painting dose of 0.1, 0.1 and 1.0 mg/ear, respectively. MeOH extract at a dose of 100mg/kg has significant analgesic action in HWS, and their EtOAc, BuOH and H₂O fractions inhibited significantly HWS at a oral dose of 2, 3 and 5 mg/kg, respectively. Compound I, II, III, IV, V have significant anti-inflammatory action at 20, 100, 50, 100 and 50 mg/kg, respectively. Their principal substance having anti-inflammatory and analgesic activities were compound I and V, phenolic derivatives.

[PB2-5] [10/17/2002 (Thr) 13:30 - 16:30 / Hall C]

A NAT for reliable HCV RNA detection from plasma and plasma-derived medicinal products

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HCV is transmitted via various plasma-derived medicinal products. The transmission of HCV could, however, be prevented by screening plasma pools with NAT and validating HCV viral clearance during the manufacturing of plasma derivatives. Although various screening methods including commercial kits are available, it is yet to develop an analytical method to detect HCV in both plasma and plasma derivatives. The objective of this study was to develop a reliable in-house method for reliable for the HCV RNA detection from plasma and plasma

derivatives. Five sets of primers were designed and one set was selected for RT-PCR. We have found that QIAamp viral RNA isolation kit was the most efficient extraction kit for these systems when several PCR conditions such as annealing temperature, reverse transcription temperature and MgCl₂ concentration, etc. were optimized. The sensitivity was calculated to be 100 IU/ml and HCV RNA negative plasma pools showed negative. Both in-house method and COBAS amplicor HCV 2.0 showed positive for window period samples. ELISA-confirmed positive samples also provided 80.6% positive rate. With a spiking of HCV to albumin, immunoglobulins and coagulation factors, the in-house method can detect up to 100IU/ml. Meanwhile, COBAS amplicor HCV 2.0 afforded a lower sensitivity in high concentrated intramuscular immunoglobulins to 500IU/ml. Results of our investigation confirm that the in-house NAT appears to be a highly sensitive and specific method, which is reliable for plasma as well as for plasma-derived medicinal products.

[PB2-6] [10/17/2002 (Thr) 13:30 - 16:30 / Hall C]

Alteration of Hepatic Drug Metabolizing Function after Traumatic Injury

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The aim of present study was to investigate effects of blunt trauma on alterations in cytochrome P-450 (CYP)-dependent drug metabolizing function and to determine the role of Kupffer cells in the hepatocellular dysfunction. Rats underwent closed femur fracture (FFx) with associated soft-tissue injury under anesthesia. Control animals received only anesthesia. To deplete Kupffer cells in vivo, gadolinium chloride (GdCl₃) was injected intravenously via the tail vein at 7.5 mg/kg body wt. 1 and 2 days before surgery. At 72 h after FFx, serum alanine aminotransferase (ALT) activity was increased, and this increase was attenuated by GdCl₃ pretreatment. Serum aspartate aminotransferase (AST) and lipid peroxidation levels were not changed by FFx trauma. Hepatic microsomal CYP content and aniline *p*-hydroxylase (CYP 2E1) activity were significantly decreased, which were not prevented by GdCl₃. The level of CYP 2B1 activity was decreased by Kupffer cell inactivation, but not by FFx. There were no significant differences in the activities of CYP 1A1, CYP 1A2 and NADPH-CYP reductase among all experimental groups. Our findings suggest that FFx trauma causes mild alteration of hepatic CYP-dependent drug metabolism and Kupffer cells are not essential for the initiation of such injury.

[PB2-7] [10/17/2002 (Thr) 13:30 - 16:30 / Hall C]

Effect of Trolox C on CYP450 Isozymes Activity and Expression in Hepatic Ischemia/Reperfusion

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The present study was done to determine the effect of trolox C, a hydrophilic analogue of vitamin E, on alteration in cytochrome P-450 (CYP)-dependent drug metabolism during ischemia and reperfusion. Rats were subjected to 60 min of hepatic ischemia and 5 h of reperfusion. Rats were treated intravenously with trolox C (2.5 mg/kg) or vehicle (PBS, pH 7.4), 5 min before reperfusion. Serum alanine aminotransferase and lipid peroxidation levels were markedly increased after ischemia and reperfusion. This increase was significantly suppressed by trolox C. Cytochrome P-450 content and NADPH-cytochrome P-450 reductase activity were decreased by ischemia/reperfusion, and restored by trolox C. Furthermore trolox C significantly increased NADPH-cytochrome P-450 reductase protein expression. There were no significant differences in ethoxyresorufin *O*-deethylase (CYP 1A1) and methoxyresorufin *O*-demethylase (CYP 1A2) activities among all experimental groups. While pentoxyresorufin *O*-dealkylase (CYP 2B1) activity was decreased, aniline *p*-hydroxylase (CYP 2E1) activity and its protein expression was increased by ischemia and reperfusion, which were prevented by trolox C. Our findings suggest that ischemia and reperfusion induces hepatic microsomal dysfunction by increasing lipid peroxidation, and trolox C ameliorates this change through its free radical scavenging activity.

[PB2-8] [10/17/2002 (Thr) 13:30 - 16:30 / Hall C]

Kupffer Cells Are Responsible for Producing Hepatic Microsomal Drug Metabolizing Dysfunction during Trauma and Sepsis