

Poster Presentations – Field B2. Pathology

[PB2-1] [10/17/2002 (Thr) 13:30 – 16:30 / Hall C]

Role of Kupffer Cells in Alteration of Vasoregulatory Gene Expression in Hepatic Ischemia/Reperfusion

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Failure of the hepatic microcirculation is a major component of reperfusion injury in the liver. However, the vasoactive mediators involved in the regulation of sinusoidal flow during reperfusion following hepatic ischemia remain to be identified. We investigate the role of Kupffer cells in hepatic ischemia/reperfusion (I/R)-induced imbalance of vasoregulatory gene expression. Rats were subjected to 60 min hepatic ischemia, followed by 5 h of reperfusion. Kupffer cells were inactivated by gadolinium chloride (GdCl₃, 10 mg/kg body weight, intravenously) 1 day prior to ischemia. Liver samples were obtained 5 h after reperfusion for RT-PCR analysis of mRNA for genes of interest: endothelin (ET-1), its receptor ETA and ETB, endothelial nitric oxide synthase (eNOS), inducible nitric oxide synthase (iNOS), heme oxygenase-1 (HO-1), and tumor necrosis factor (TNF- α). Serum aspartate aminotransferase level markedly increased after I/R. This increase was attenuated by GdCl₃ pretreatment. mRNA levels for iNOS and TNF- α significantly increased in I/R animals. This increase was markedly attenuated by GdCl₃. In ischemic reperfused livers the levels of mRNA for ET-1, ETB, HO-1 were significantly elevated. In contrast, the expression of ETA receptor gene was reduced after I/R. Our findings suggest that activation of Kupffer cells plays an important role in the altered hepatic vasoregulatory gene expression induced by hepatic I/R.

[PB2-2] [10/17/2002 (Thr) 13:30 – 16:30 / Hall C]

Anti-asthmatic agents of *Gastrodia elata* Rhizoma MeOH extracts

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For the activity-guided separation on anti-asthmatic action from 4 fractions as n-hexane (yield, 0.09%), EtOAc (0.48%), BuOH (3.0%) and H₂O (5.17%) fractions from MeOH extract (11.64%) of powdered *Gastrodia elata* Rhizoma (GER), 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, VI as henolic derivatives were isolated in the EtOAc, BuOH and EtOEt fractions. Anti-asthmatic actions of fractions and constituents from MeOH extract of GER were carried out to determine by 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 MeOH extract at a dose of 100mg/kg has significant anti-asthmatic activity in the EAR and LAR, and their EtOAc, BuOH and Hexane fractions inhibited significantly sRaw and recruitment of eosinophils and PLA₂ activity in the LAR, at a oral dose of 20, 20 and 50 mg/kg, respectively. Compound I, V and VI significant anti-asthmatic activity at 20, 50 and 50 mg/kg, respectively. Their principal substance having anti-asthmatic activity were compound I and V, phenolic derivatives and compound VI, 1,2-Bis [4-(β -D-glucopyranosyloxy) benzyl] citrate.

[PB2-3] [10/17/2002 (Thr) 13:30 – 16:30 / Hall C]

Pharmacological actions of H₂O and MeOH extract of *Opuntia ficus-indica* Semen

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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