that the more has hydroxy group of benzene ring, the more has potent inhibitory activity of ROS generation.

[PB2-5] [10/18/2001 (Thr) 14:00 - 17:00 / Hall D]

Inhibitory Activity of Scopoletin and Scoparone in Carageenan-and Arachidonic Acid-Induced Edema

Kim Chang Jong, Seo Moo Hyun°, Lee Zoon Han, Zang Yong Un, Sim Sang Soo

Department of Pathophysiology, College of pharmacy, Chungang University

Coumarin derivatives are widely distributed in the vegetable kingdom. They have anti-tumor, anti-oxidant, anti-viral, anti-inflammatory. In this study, anti-inflammatory activity of scopoletin (7-hydroy-6-methoxy-2H-1-benzopyran-2-one), scopalone (6,7-dimethyl- coumarin) and coumarin were studied in the carageenan- and arachidonic acid - induced edema. Paw edema was determined by plethysmograph and ear edema was determined by microengineer's meter. Scopoletin and coumatin purchased from Sigma company and scopalone was purchased from Aldrich company. Coumarin derivatives have dose-dependently anti-inflammatory activity with the following order of potency : scopalone > scopoletin > coumarin. It shows that scopalone and scopoletin at a dose of 25 mg/kg have significant anti-inflammatory activity in the model of carageenan-induced paw edema and arachidonic acid-induced ear edema. These results indicated that the more has hydroxy group of benzene ring, the more has potency inhibitory activity of anti-inflammation, and methylation in 7-hydroxy group of benzene introduced lesser active.

[PB2-6] [10/18/2001 (Thr) 14:00 - 17:00 / Hall D]

Single and One Month-oral Toxicity of Combination of Gingko Biloba and Selegiline

Kim Chang Jong, Seo Moo Hyun°, Lee Seung June, Yoon Jeong Yi, Sim Sang Soo

Department of Pathophysiology, College of pharmacy, Chungang University

Selegiline(SE) is a anti-Parkinsonism agent and Gingko bilova extract (GBE) has active blood circulation. In this experiment, to develop the combination drug for osteoporosis at a ratio of 1 : 24 of SE and GBE, single and one month-oral toxicity of combination drug of SE and GBE were studied in rats. In the single oral toxicity at a combination dose of 3.13, 6.25, 12.5, 25, 50, 100, 200, 400, 800 mg/kg base on SE, respectively, LD50 was 180.95 mg/kg for SE and 4.34 g/kg for GBE. in male rat, and LD50 was 309.08 mg/kg for SE and 7.41 g/kg for GBE in female rat. No significant weight gain, food consumption and urine analysis were shown. In one month oral toxicity at a ration of combination dose of 3.3, 10, 33.3 mg/kg of SE and 79.2 240, 799.2 mg/kg of GBE. Only one female rat with combination administration of 33.3 of SE and 799.2 mg/kg of GBE died. Significant weight gain, food consumption and urine analysis are not found. and also significant clinical findings are not shown. Eye, urine, hematological and biochemical parameters were not significantly changed. Combination of SE and GBE at a dose of 33.3 and 799.2 mg/kg and that is more toxic in male than female rat.

[PB2-7] [10/18/2001 (Thr) 14:00 - 17:00 / Hall D]

Expression of Proteinase-Activated Receptor-2 on Intestinal Mast Cells in Ulcerative Colitis

Kim JinA°, Kang OkHwa, Choi SuckChei, Yun KiJung, Kim TaeHyun, Nah YongHo, Lee YoungMi

Department of Oriental Pharmacy, College of Pharmacy, Department of Internal Medicine, School of Medicine, Department of Pathology, School of Medicine, Wonkwang University, Iksan, Chonbuk, 570-749, South Korea

Background: It have been suggested that mast cells may play a role in the pathogenesis of ulcerative colitis (UC). To better define the role of mast cells in UC, we examined PAR2, tryptase, and TNF-α expression in normal tissue and UC tissue.

Methods: PAR2, tryptase, and TNF-α expression in 9 normal and 9 UC tissues were examined by immunohistochemistry.

Results: All of the three proteins were significantly more detectable in UC tissue than in normal tissue. Approximately 70.3 % of PAR2-positive lamina propria cells and 66.4 % of TNF-α-positive lamina propria cells were tryptase-positive mast cells, respectively.

Conclusions: These results show that PAR2-positive mast cells and TNF-α-positive mast cells may play an important role in the pathogenesis of UC.

[PB2-8] [10/18/2001 (Thr) 14:00 - 17:00 / Hall D]

Interrelation among Arachidonic Acid Release, Reactive Oxygen Species and Peroxynitrite Generation Induced by Silica in RAW 264.7 Cells

Lee Seung June°, Seo Moo Hyun, Jang Young Un, Kim Chang Jong, Sim Sang Soo

Department of Pathophysiology, College of Pharmacy, Chung-Ang University

Objective and Design: To investigate the underlying mechanism of silica in inflammatory response, we examined the interrelation among arachidonic acid (AA), reactive oxygen species (ROS) and nitric oxide (NO) in RAW 264.7 cells stimulated by silica.
Materials and Methods: RAW 264.7 cells were used for measurements of AA release, ROS, peroxynitrite (PON) generation and NO production elicited by silica. The effects of various inhibitors related to phospholipase (A2, C and D) pathway and ROS generation were observed.
Results: Silica dose-dependently increased [3H]AA release, ROS, PON generation and NO production. OPC (10 μM), DTT (5 mM) and MAFP (10 μM), significantly inhibited [3H]AA release, ROS and PON generation induced by silica. U73122 (a specific PLC inhibitor, 1 μM), neomycin (an nonspecific PLC and PLD inhibitor, 1 mM) and propranolol (a PLD inhibitor, 200 μM) significantly inhibited [3H]AA release and PON generation but did not inhibit ROS generation induced by silica. Diphenyleneiodonium chloride (10 μM), an NADPH oxidase inhibitor, and tiron (5 mM), an intracellular ROS scavenger, significantly inhibited [3H]AA release, ROS generation and PON generation induced by silica. NOS inhibitors, such as 1 mM L-NAME, 1 mM L-NNA and 1 mM L-NMMA significantly inhibited silica-induced PON production, but did not affect [3H]AA release and ROS generation induced by silica.
Conclusion: These results suggest that both AA release and ROS elicited by silica stimulate each other and these seem to be the upstream mediators in PON generation in RAW 264.7 cells.

[PB2-9] [10/18/2001 (Thr) 14:00 - 17:00 / Hall D]

Histamine Release by Hydrochloric Acid is Mediated via Reactive Oxygen Species Generation and Phospholipase D in RBL-2H3 Mast Cells

Sim Sang Soo°, Kim Chang Jong