induced edema a oral dose of 25mg/kg and 32.3±5.6% at PMA-induced edema at a topical dose of 0.5mg/ear, respectively. Cinnamic acid at a oral dose of 25 mg/kg has anti-inflammatory activity, but its potency has less than sinapinic acid : 18.7±2.2% at carrageenan-induced edema and 10.1±1.08% at PMA-induced edema, respectively. Sinapinic acid has the most active analgesic activity in HAc-induced writhing as compared with control (25.5±4.5%), but cinnamic acid has less effective than other cinnamic acid derivatives(19.2±3.7%). All cinnamic acid derivatives at a oral dose of 25mg/kg has inhibitory activity of inflammation and pain, but their activity have less than that of dexamethasone at a oral dose of 2mg/kg : 85.3±9.4% at carrageenan-induced edema and 65.8±7.2% at PMA-induced edema, and ibuprofen at a oral dose of 25mg/kg in the PMA-induced edema (67.0±4.6%) and HAc-induced writhing(45.1± 3.4%). These results show that anti-inflammatory activity cinnamic acid derivatives have the more hydroxyl and methoxyl of benzene ring, the more anti-inflammatory and analgesic activity.

[PB2-2] [10/20/2000 (Fri) 15:30 - 16:30 / [Hall B]]

Structure Activity Relationship of Cinnamic acid Derivatives on IgE -mediated Asthma in Non-anesthetized Guinea pigs

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The phenylpropanoids, C6-C3 compounds, have been reported that they have many biological activities, such as anti-inflammatory, anti-platelet aggregation, anti-viral activity and anti-oxidant activity. To investigate the anti-asthmatic activity of cinnamic acid derivatives in guinea pigs with IgE-mediated asthma, the specific airway resistance (sRaw) and tidal volume (TV) in immediate and late-phase asthmatic responses (IAR, LAR) induced by aerosolized-ovalbumin (OA) challenge in OA-sensitized guinea pigs were respectively determined by the double-chambered plethysmograph (HSE 850). And also recruitment of leukocytes, especially eosinophils into the lung, protein, histamine and phospholipase A2 (PLA2) activity in the bronchoalveolar lavage fluid (BALF) were analysed. Sinapinic acid at a oral dose of 25 mg/kg inhibited significantly the sRaw in IAR as compared with control (280±40% to 96±26%) and LAR (110±26% to 33±8%), respectively, and also suppressed not only the recruitment of the inflammatory cells, especially eosinophils, into the lung but also histamine release, protein exudation and PLA2 activity in BALF. Ferulic acid and caffeic acid at a oral dose of 25 mg/kg had significant anti-asthmatic activity, but their activity were less potent than that of sinapinic acid. The anti-asthmatic activity of cinnamic acid derivatives are same as cromolyn and dexamethasone. These results show that cinnamic acid derivatives have the more hydroxy and methoxy group of benzene ring, the more anti-asthmatic activity.

[PB2-3] [10/20/2000 (Fri) 15:30 - 16:30 / [Hall B]]

Cytotoxic Effect of Urushiol on Human Stomach Cancer Cells

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Urushiol is mixture compound isolated from the sap of Korean lacquer tree (*Rhus vernicifera* Stokes). In the previous study, we evaluated the induction of apoptosis in MCF-7 human breast cancer cells. We observed that urushiol induced apoptosis through p53-dependent pathway. In this study, the ability of urushiol to induce gastric cancer cell death was investigated in the human gastric cancer cell lines, MKN-45 and MKN-28. The p53 statuses of the two cell lines are different. MKN-45 expresses heterozygous (wt/mt) but MKN-28 expresses mutant type of p53 (mt/mt). The cytotoxicity of urushiol measured by MTT assay. The IC 50 values were about 15 and