hydroperoxide as a potent antioxidant.
Thus, the flavonoid components of crude drugs could be applied to regulating the eicosanoid and antibody production, inhibiting the lipid peroxide.

[PB1-2] [04/19/2001 (Thr) 15:30 - 16:30 / Hall 4]

Silica-Induced Phospholipase A2 Activation in Raw 264.7 Cells

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Silica which is a typical fibrogenic particles in many occupations including coal mining, quarrying and sandblasting induced acute inflammatory response and fibrosis in lung. To investigate the mechanism of phospholipase A2 (PLA2) activation induced by silica, we observed the effects of protein kinase inhibitors on silica-induced PLA2 activity in Raw 264.7 cells. Silica caused PLA2 activation in a dose- and time-dependent manner in Raw 264.7 cells. Silica-induced PLA2 activation was significantly inhibited by a variety of phospholipase inhibitors, such as manoalide (1 μM), neomycin (100 μM), U73122 (1 μM) and propranolol (200 μM). Also it was dose-dependently inhibited by various protein kinase inhibitors, bisindolmaleimide (protein kinase C inhbitor), tyrosine kinase inhibitors (genistein and DHC), calmodulin antagonists (W-7 and trifluoperazine), calmodudlin-dependent protein kinase II inhibitor (KN62) and mitogen-activated protein kinase kinase (MAPKK) inhibitor (PD098059), whereas it was not affected by forskolin, sodium nitroprusside and nitric oxide synthase inhibitor (L-NAME and L-NNA). These results indicate that inflammatory response induced by silica may be mediated via various signal transduction pathway. Considering complex action of silica on inflammatory response, it is difficult to find therapeutics for silica-induced inflammation.

Poster Presentations - Field B2. Pathology

[PB2-1] [04/19/2001 (Thr) 15:30 - 16:30 / Hall 4]

Anti-inflammatory Activity of Phenylpropanoids on the Carrageenan-induced Paw Edema

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Phenylpropanoids, C6-C3 compounds are widely distributed in vegetable kingdom. There are currently a great deal of interest in the health benefits of phenylpropanoids, through their potential anti-oxidant, anti-inflammatory and anti-aggregatory properties. The phenylpropanoids have scavenging activity of oxygen free radical which is shown in the flavonoids. In this study, the structure-activity relationship of phenylpropanoids in anti-inflammatory effect was evaluated in the carrageenan-induced paw edema of rats. The volume of the hind paw after intradermal injection of 0.1 ml of 1 % carrageenan in a subplantar of right hind paw was measured by plethysmometer for 4 hrs. It shows that all of phenylpropanoids have dose-dependently anti-inflammatory activity at a oral dose of 12.5mg/kg. Caffeic acid have the most activity, but their activity was less cative than indomethacin and ibuprofen. Their efficiency of anti-inflammatory action in the order: caffeic acid > chlorogenic acid > p-coumaric