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Phenylpropanoids(PP), C6-C3 compounds, are widely distributed in many plants. In this experiments, effect of PP on sheep red bood cells (sRBC)-induced delayed type hypersensitivity (DTH) were studied in ICR male mice. SRBC were challenged by i.p. injection at two weeks after sensitization of i.p. injection of sRBC. Five days after the challenge of antigen, paw edema induced 24 hours after the last challenge by DTH, respectively. Drugs were orally administered one hour before the last challenge of antigen. Spleen cells were isolated by cytosieve, and rosette forming cell (RFC) to sRBC were determined. It shows that all of PP inhibited dose-dependently not only DTH, but also RFC. Chlorogenic acid at a dose of 25 mg/kg inhibited significantly DTH as compared with control ($P<0.01$). And also coumaric acid, sinapinic acid and caffeic acid at a dose of 50 mg/kg inhibited significantly DTH ($P<0.05$). Quinic acid at a dose of 50 mg/kg inhibited significantly DTH ($P<0.05$). Quinic acid at a dose of 12.5 mg/kg inhibited significantly RFC, but their activity were less than prednisone acetate. These results indicated that PP have significant inhibitory action on type IV hypersensitivity, as it were, PP can be inhibited cytokines production and proliferation of To cells.

[PB2-5] [04/18/2003 (Fri) 09:30 - 12:30 / Hall P]

Inhibitory Action of Phenylpropanoids on Arthus Reaction, Plaque Forming Cells and Hemagglutinin titer

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Many kinds of phenylpropanoids(PP), C6-C3 compounds, are widely distributed in many plants. In this experiments, effect of PP on sheep red bood cells (sRBC)-induced Arthus reaction (AR) were studied in ICR male mice. SRBC were challenged by i.p. injection two weeks after sensitization of i.p. injection of sRBC. Five days after the challenge of antigen, paw edema induced 3 hours after the last challenge by AR. Drugs were orally administered one hour before the last challenge of antigen. Spleen cells were isolated by cytosieve, and Hemagglutinin (HA) titer and plaque forming cell (PFC) to sRBC were determined. It shows that all of PP inhibited dose-dependently not only Arthus reaction, but also HA titer and PFC. Chlorogenic acid at a dose of 25 mg/kg inhibited significantly AR as compared with control ($P<0.01$). And also coumaric acid, sinapinic acid and caffeic acid at a dose of 50 mg/kg inhibited significantly the AR ($P<0.05$). Quinic acid at a dose of 50 mg/kg inhibited significantly AR ($P<0.05$). Quinic acid at a dose of 12.5 mg/kg inhibited significantly HA titer and PFC ($p<0.01$), but it's activity was less than that of prednisolone acetate. These results indicated that PP have significant inhibitory action on type III hypersensitivity, as it were, PP can be inhibited synthesis of the antibody and immune complex.

[PB2-6] [04/18/2003 (Fri) 09:30 - 12:30 / Hall P]

Inhibitory Action of Cinnamic Acid Derivatives on Heterologous Passive Cutaneous Anaphylaxis

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Cinnamic acid derivatives (CAD) originating from medicinal plants have some biological activity.

In this study, effect of CAD on heterologous passive cutaneous anaphylaxis (PCA) were studied by the method of Levine and Vaz(1970). Anti-serum was prepared from OA-sensitized male Balb/c mouse at two weeks after the last challenge of ovalbumin (OA) and alumina gel, and these serum diluted with HEPES buffer by means of the heterologous PCA titer, i.e. the highest dilution inducing PCA in rats. Heterologous PCA test in rats were carried out to determine the width and contents of pigment leakaged in the dorsal skin 30 minutes after i.v. injection of 0.2 ml of 1 % egg albumin and 1 % Evans blue mixture (1 : 1). It shows that all of CAD inhibited the heterologous PCA : Quinic acid, ferulic acid and coumaric acid at a dose of 25 mg/kg, and sinapinic acid and cinnamic acid at a dose of 50 mg/kg,, inhibited significantly the contents of leaked pigments and width of pigmented skin as compared with control, respectively ($p<0.01$). These activity were lees than that of prednisolone acetate at a dose of 10 mg/kg. Quinic acid has more inhibitory activity of PCA than chlorogenic acid. These results indicated that CAD inhibited dose-dependently the anaphylactic hypersensitivity, and also the more hydrogen radical in benzene ring of CAD have, the more inhibitory activity on PCA have.

[PB2-7] [04/18/2003 (Fri) 09:30 - 12:30 / Hall P]

Inhibitory Action of Cinnamic Acid Derivatives on Reversed Cutaneous Anaphylasis and Hemolysin Titer

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Cinnamic acid derivatives(CAD) originating from vegetable kingdom have some biological activity. Effect of CAD on reversed cutaneous anaphylaxis (RCA) and hemolysin (HY) titer were studied in rats. Experiments were carried out to determine RCA as the skin edema induced at 2 hours after injection of 0.05ml/site of anti-rat serum rabbit serum. Drugs were orally administered at one hour before antigen challenge. HY titer determined the hemlysis of sRBC to spleen cells. Two weeks after sensitization of i.p. injection of sRBC (4x10(8) cells), mice were challenged by i.p. injection of sRBC. On day 5 after sRBC challenged, spleen cells were isolated by cytosieve. HY titer exhibited as log2X (X is the highest dilution). Drugs were orally administered one hour before the last challenge of antigen. It shows that all of CAD have generally the dose-dependently inhibitory action on RCA and HY titer. Sinapinic acid at a dose of 12.5 mg/kg, and coumaric acid, quinic acid, chlorogenic acid, cinnamic acid and ferulic acid at a dose of 50 mg/kg inhibited significantly the RCA as compared with control, respectively ($p<0.01$). Quinic acid at a dose of 12.5 mg/kg inhibited significantly HY titer as compared with control ($p<0.01$), and it's activity was one half of prednisolone acetate. Sinapinic acid and chlorogenic acid at a dose of 25 mg/kg have the significant inhibition of HY tier. These results indicated that the more methoxy or hydroxyl radical in benzene ring of CAD have, the more inhibitory activity of RCR and HY titer have.

Poster Presentations - Field B3. Neuroscience

[PB3-1] [04/18/2003 (Fri) 09:30 - 12:30 / Hall P]

ROLE OF ERK1/2 IN 6-HYDROXYDOPAMINE-INDUCED APOPTOSIS IN SK-N-SH HUMAN NEUROBLASTOMA CELLS