effects on the alcohol induced liver damage (6g/kg, oral administration) and were treated (0.001, 0.01 and 0.1mg/ml, final concentration) to human peridental ligament cells and MG-63 (osteoblastoma cell line) to check the effects on cell growth and bone forming by proliferation, ALP activity and nodule calcification tests. To find out skin whiting effect tyrosinase activity suppression test was performed.

As a result, biochemical parameters (GOT, GPT and ALP) showed that butanol fraction of Hwang Chil had protective effects on the liver alcohol induced damage. Chloroform, ethylacetate and water fraction of Hwang Chil increased human periodontal ligament cell proliferation (more than three times on the day 14), ALP and nodule calcification (twice the number on the day 10). Water extract of Hwang Chil also increased ALP activity and nodule calcification of MG-63 at day 10. The effect of skin whitening was far better than kojic acid which is well known whitening cosmetic.

It was concluded that the unique natural resource Hwang Chil (Dendropanax morbifera Lev.) which is exclusively produced in Korea, is found to be a great product effective in protecting the liver from alcohol, restoring hard tissues and whitening skins by suppressing tyrosinase activities which cause melanin. Therefore, Hwang Chil is considered to be a quality herb just like ginseng with full of potentials to be developed into various products including health functional food, functional cosmetic products and drugs that has competitiveness in overseas market.

[PA3-8] [04/17/2003 (Thr) 14:00 - 17:00 / Hall P]

Induction of Quinone Reductase by Obtusafuran from Dalbergiae Lignum

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NAD(P)H:quinone oxidoreductase (quinone reductase; QR; EC1.6.99.2), a cytosolic FAD-containing flavoprotein, form one of the important component of the phase II drug-metabolizing enzyme systems. It is found in all mammalian species tested and is expressed in many organs including the liver. QR catalyses two-electron reduction of quinones to hydroquinones thereby suppresses the formation of superoxide anion radical. in addition,quinone reductase is induced coordinately with other electrophile-processing Phase II enzymes by a variety of compounds. We initially screened several chinese medicinall drugs for QR inducing activity. The MeOH extract of Dalbergiae Lignum showed a potent QR inducing activity in a dose-dependent manner without any significant cytotoxity. Using activity-guided isolation we separated Obtusafuran QR active components of the extract. The QR inducing property of Obtusafuran suggest the possibility as a competitive candidate for the chemoprevent agent.

[PA3-9] [04/17/2003 (Thr) 14:00 - 17:00 / Hall P]

Anti-platelet Mechanism of Epigallocatechin Gallate

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We have previously reported that green tea catechins(GTC) displayed anti-thrombotic activity, and that this might be due to anti-platelet rather than anti-coagulation effects. In the present

study, we have compared the anti-platelet activity and mechanism of epigallocatechin gallate (EGCG) and epigallocatechin(EGC), which are two major components of GTC. We investigated the inhibitory effects of rabbit platelet aggregation by EGCG and EGC. EGCG inhibited collagen- and arachidonic acid-induced platelet aggregation, with IC_{50} values of 80 and 100 uM, respectively. However EGC without an additional galloyl group on C-3, weakly inhibit collagen- and arachidonic acid-induced aggregation of rabbit platelets at the concentration of 200 uM. To investigate the anti-platelet mechanism of EGCG and EGC, we tested the effects of EGCG and EGC on arachidonic acid liberation and thromboxane B_2 conversion. EGCG potently inhibited the arachidonic acid liberation from membrane phospholipids in a dose-dependent manner, while EGC did not show any inhibitory effect. EGCG showed weak inhibition of TxB_2 conversion from arachidonic acid, while EGC significantly inhibited TxB_2 conversion. EGCG and EGC did not alter such coagulation parameters as activated partial thromboplastin time and prothrombin time. Taken together, these observations suggest that the anti-platelet activity of EGCG may be mediated mainly by inhibition of arachidonic acid liberation and that the anti-platelet effect of EGCG is enhanced by the presence of a gallate moiety at C-3 position.

[PA3-10] [04/17/2003 (Thr) 14:00 - 17:00 / Hall P]

The sphingoid base 1-phosphate as an endogenous marker for Myocardiac Infarction

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The purpose of this study was to determine the possibility of sphingolipid as a diagnostic marker for Myocardiac Infarction(MI), atherosclerosis-related cardiovascular disease. Sphingolipids are known to play a role in the occurrence of atherosclerosis in human blood vessels. Platelet-poor plasma(PPP) and washed platelets were prepared from healthy volunteers and MI patients, and sphingolipids analyzed. Sphingoid base 1-phosphate(S1P) was decreased in PPP from MI patients by 30-50% compared with normal persons, while MI patients showed the statistically different concentrations of S1P in plasma among stable, unstable and variable MI. Washed platelets from MI patients showed approximately 30 pmol and 18 pmol of sphingosine 1-phosphate and sphinganine 1-phosphate, while 270 pmol and 45 pmol per 100μg protein in normal volunteers, respectively. The sphingolipid profile in human platelets are very similar to the one in plasma. The phytosphingosine 1-phosphate was also detected in 20pmol/200μl normal human plasma. These results suggested that S1P may be a sensitive and specific biomarker for human cardiovascular diseases.

[PA3-11] [04/17/2003 (Thr) 14:00 - 17:00 / Hall P]

The altered sphingolipid metabolism in rats following fumonisin B1 exposure

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Fumonisins are specific inhibitors of ceramide synthase in sphingolipid metabolism. The objective of this study was to investigate whether the elevation of free sphingoid bases 1-phosphate (S1P) are related to the fumonisin exposure. Sprague Dawley rats were injected i.p.