The adducts of lipid peroxidation and related aldehydic end are mediators of chronic poisoning and affect the development of chronic liver damage leading to fibrosis and cirrhosis. Substances delayed or suppresed lipid peroxidation could have an antioxidant and protective effect in liver disease. In this study, it was attempted to find out above mentioned effect of Solanum lycopersicum investigated in CCl4 induce liver fibrosis model.
The female Sprague-Dawley rats were divided into 3 groups(Normal, AC: CCl4 treated group AC-SL: CCl4 and Solanum lycopersicum treated group) and liver fibrosis was developed by CCl4 administration. The rats were observed for 4 weeks and sacrificed. The liver and blood were prepared and used for quantitative measurement of enzyme activity, MDA and SOD.
As a result, the level of clinical parameters in sera of AC, AC-SL group ($p<0.005 \sim 0.001$), when compared to AC group, AC-SL group showed significantly lower value of AST, ALT, ALP, BUN and total-bilirubin ($p<0.05 \sim 0.001$). The metabolite of lipid peroxidation (MDA) in liver tissue increased significantly in both of CCl4 group ($p<0.0001$). And the concentration of MDA in liver of AC-SL group decreased significantly 24.8% compared with AC group ($p<0.0001$). The value of SOD appeared 4.35 ± 0.12 in normal group, 4.07 ± 0.03 in AC and 4.32 ± 0.14 U/0.1g liver in AC-SL group, which the value of AC-SL group was significantly increased compared to AC group ($p<0.01$).
In conclusion, Solanum lycopersicum extract may have the improvement of hepatic function and the antioxidative effect in experimental liver fibrosis.

[PA2-5] [04/17/2003 (Thr) 14:00 - 17:00 / Hall P]

Convenient Therapy with Specially Designed Radionuclide, 166Ho Skin Patch for Skin Cancer

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166Ho, a β-emitting radionuclide, was incorporated within polyurethane film for possible application for the therapy of skin cancers. The aim of this study was to investigate skin irritant after radiation with 166Ho patch in rabbits and to estimate the efficacy of this therapy for skin cancer patients. Six NZW rabbits were used for skin irritant in this study. The dorsal hair of rabbits was removed with an electric clipper and blade. Three different radiation doses (control, 35Gy and 70Gy) were applied on skin of the shaved rabbit. Two weeks after radiation, desquamation, erythema or erosion developed in applied sites but these acute radiation reactions healed gradually. For the evaluation of the efficacy of this therapy, 26 sites of Bowen's disease in 12 patients, 8 lesions of basal cell carcinoma in 8 patients, 3 lesions of squamous carcinoma in 3 patients and 18 lesions of Kaposi sarcoma in 4 patients were treated with 166Ho patches (45-95 year old; 0.5-8 cm in size). The patches were applied to the surface of skin cancers for 30-60 min for a total radiation dose of 35 or 80 Gy according to the type of cancer. All of 26 lesions of Bowen's disease, 6 of 8 lesions of basal cell carcinoma, all of 3 lesions of squamous carcinoma and 17 of 18 lesions of Kaposi sarcoma showed complete response with single treatment. It was concluded from these studies that the 166Ho patch is a safe, convenient, cosmetic and effective therapeutic modality without adverse effects on the surrounding normal tissue and bone.

[PA2-6] [04/17/2003 (Thr) 14:00 - 17:00 / Hall P]

Development of a Radiopharmaceutical using 166Ho-chitosan Complexes against Prostate Cancer

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166Ho-chitosan complex (HC) is a new radiopharmaceutical approved in Korea for liver cancer. In these studies, therapeutic effect against prostate cancer and biodistribution of HC were evaluated in animal models using the technique of intraprostatic administration. For evaluation of the therapeutic effect, noble rats with AIT orthotopic or subcutaneous prostate cancer were used. In orthotopic model of prostate cancer, group 1 was a sham control, group 2 received 1 mCi of chitosan-free 166Ho, group 3 received 0.5 mCi of HC and group 4 received 1.0 mCi of HC. In the meantime, the injection doses of HC were 10, 20 and 30 mCi in subcutaneous model. After 4 weeks post injection in subcutaneous model, inhibition rates of tumor growth in each group were 90.7, 96.9 and 82.9%, respectively. To determine the fate of HC, SD rats were used by studying its absorption, distribution and excretion after administration into the prostate gland. About 100 μCi of HC [0.1875 mg of Ho(NO3)3·5H2O and 0.25 mg chitosan/head] was administered intraprostatically to male rats. Radioactive concentrations in blood, urinary and fecal excretion and radioactive distribution in tissues were examined. The radioactive concentrations in blood were not observed, and cumulative urinary and fecal excretions for 72hr were negligible. The radioactive concentrations in tissues and the whole body autoradiography images showed that most of the administered radioactivity was localized at the administration site (>98% at 144 hr post administration), and only slight radioactivity was distributed in the bone, liver, spleen and kidney. These studies reveal that HC could be a safe and efficacious radiopharmaceutical candidate against prostate cancer.

Poster Presentations - Field A3. Hygienics

[PA3-1] [04/17/2003 (Thr) 14:00 - 17:00 / Hall P]

CKD-501 INDUCED GLUCOSE TRANSPORT WAS MAINLY CAUSED BY THE STIMULATION OF GLUCOSE TRANSPOTER-TRANSLOCATION IN L6-MYOTUBES

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A newly synthesized thiazolodinedione derivative, CKD-501, was confirmed to have antihyperglycemic effect in in vivo study.
The present study was undertaken to investigate the effect of CKD-501 on glucose transport and its stimulating mechanism in L6-myotubes.
L6 myoblasts were cultured and differentiated to myotubes by reducing serum concentration in media from 10% to 2%. CKD-501 was added to culture media of myotubes to determine its effects on glucose uptake and insulin signaling pathway.
CKD-501 was found to increase the 2-deoxyglucose uptake in a dose-dependent manner with maximal stimulation at 10mM. Total protein levels of GLUT-1 and GLUT-4 were not changed by the treatment of CKD-501. But the translocation of GLUT-4 from the light microsome to the plasma membrane was markedly increased by CKD-501. Simultaneous treatment of insulin and CKD-501 did not result in any synergistic effect on 2-deoxyglucose uptake. Inhibitors of PI3-kinase and MAPK which are the major transducers of insulin signaling pathway, did not block CKD-501 induced glucose uptake. Some effects of CKD-501 on insulin independent signaling