BENEFICIAL EFFECT OF A CONTROLLED CHINESE HERBAL REMEDY, K-17.22, In CCL4-INDUCED LIVER TOXICITY: AN IN VIVO AND IN VITRO STUDY

4th JSH International Symposium on Liver Cirrhosis & Liver Cancer;
37th Annual Meeting of Liver Cancer Study Group of Japan
Shimonoseki, Japan. 7th~9th June 2001

European Association for the Study of the Liver
Florence, Italy. 12th~13th October 2001

F. Marotta, A.Rouge, H.Anzulovic, M.Harada, G.M.Ideo, K.Kajikawa, N.Yahaihara, G.Princess, G. Ideo. Hepato-GI Dept., S. Giuseppe Hosp., Milano, Italy; α-Ω Techonolab, Geneve, Switzerland; MCH Hosp., MCK Hosp., Tokyo, Japan; Yanaihara Institute, Shizuoka, Japan.

We tested K-17.22 (Yojyo-Henshiko: K-22, Kyotsu Inc., Tokyo, Japan), a controlled herbal " hepatoprotecitve" formula, in CCL4-induced liver toxicity. Wistar rats were allocated into 3 groups:
A) given a s.c. injection of 0.1ml/100g b.w. of CCL4 in olive oil(1:1 v/v) b.i.d. for 4 weeks;
B) as A, plus 50mg/kg of K-17.22/-5% glucose p.o.;
C) as B but with K-17.22 given 1 week after the first injection of CCL4.

As compared to control, group A showed a significant decrease of GSH>45%, p<0.001) and GSSG(P<0.01) liver content, a lower liver wet weight (p<0.01) together with an increase of transaminases(>15-fold, p<0.001) whereas both groups B and C showed a mild transaminases increase and liver necro-inflammatory score (p<0.05 vs A). Group A showed an > 30% decrease of Y protein and of GST activity (p<0.01 vs control) which were reverted to normal by K-17.22(p<0.05 vs A). On hepatocyte culture it appeared that concentrations as low as 10 μg/ml of K-17.22 significantly mitigated CCL4 hepatocyte damage (P<0.05) comparably to 100μg /ml sylymarin, while 100μg/ml was more protective than either silymarin 100μg/ml or glycyrrhizin 10μg/ml (p<0.05). These preliminary data suggest that K-17.22 exerts an highly sparing and prolonged effect (either preventive and therapeutic) on GSH depletion and on the conjugate liver GSH/GSSG redox system in CCL4-induced liver injury.