EFFECT OF A NUTRITIONAL APPROACH WITH K-17.22 ON ENDOGENOUS HEPATIC ANTIOXIDANT SYSTEM

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In the present study we tested a natural compound, i.e. K-17.22, which is endowed by transaminases-lowering effect in HCV patients, on free radicals- related liver damage by ischemia/reperfusion injury. Wistar rats were fed for 2 weeks with either A) standard diet or B) standard diet added with 30mg of K-17.22 (Yojyo-Henshiko: K-17.22, Kyotsu Inc., Tokyo, Japan).

A classical ischemia/ reperfusion liver model was prepared and after 60 min of reperfusion, hepatic tissue blood flow was measured and the rats were sacrificed. A separate survival study was done as well. The following parameters were checked: liver tissue peroxides, SOD, Catalase, GSH metabolism, hepatic tissue blood flow and radicals-trapping ability of K-17.22 by ESR. After 60 min of reperfusion, B group showed a significantly lower MDA level($p<0.05$ vs controls) with an overall impairment of the liver antioxidant defense system($p<0.001$).

In particular, GSH and GSH-Px reverted to normal with a significantly lower GPT level($p<0.05$). K-17.22 didn't show any direct free radicals-trapping ability either on superoxide nor on hydroxyl radicals systems. Ischemia-reperfusion phenomenon caused a nearly 40% drop of the liver blood flow in A group ($p<0.001$ vs sham-op.)

Pretreatment with K-17.22 enabled a recovery of such haemodynamic parameter($p<0.05$ vs untreated group). Only 20% of rats survived after liver ischemia while B group yielded a 45% survival rate($p<0.05$). The present nutritional approach seems to offer a noteworthy boosting ability on endogenous free radicals scavengers array which is unrelated to its direct in vitro action.