

Dose Response of Ethanol after Chronic Administration of Alcohol and Effect of Liv.52 on Blood, Liver Ethanol and Acetaldehyde Levels in Rats

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Chronic alcohol consumption in humans induces phase I metabolism of ethanol and decreases acetaldehyde clearance. Liv.52 treatment for 15 days in chronic alcohol users reversed these changes¹. The experimental model was designed to check the phenomenon of enzyme induction in relation to the different strengths of alcohol ingestion and reproducibility of its reversal with Liv.52 in 48 inbred Wistar strain male rats. Daily average intake of 6% ethanol was 31.2 ± 1.98 ml/day, for 42 days through water feeding bottle. Acute challenge of 5%, 10% and 15% of oral alcohol was given on day 0, 22 and 42. Blood samples were analysed for ethanol and acetaldehyde levels.

Following single dose administration, dose related increase in both blood ethanol and acetaldehyde was noted. Enzyme induction was evident by day 22 after 5% alcohol challenge and by day 42 with higher strengths. 5% ethanol was adequate sub-maximal dose for evaluation of efficacy of Liv.52.

Liv.52 administration for 15 days after chronic alcohol ingestion significantly reduced blood and liver acetaldehyde levels as compared to placebo. The effect of Liv.52 on reversal of phase I metabolism of ethanol was confirmed.

Day	Mean blood ethanol levels (mg%) at 30 minutes			Mean acetaldehyde levels ($\mu\text{g/ml}$) at 30 minutes			Blood acetaldehyde levels ($\mu\text{g/ml}$)				Liver acetaldehyde levels ($\mu\text{g/ml}$)			
	5%	10%	15%	5%	10%	15%	R _a	1 hr	3 hr	4 hr	R _a	1 hr	3 hr	4 hr
1	80.80	115.68	147.03	13.32	14.33	18.89	–	12.54	5.47	2.43				
22	66.16	119.32	175.77	15.99	15.52	19.93	Liv.52	13.72	5.58	4.32	Liv.52	1.14	-	-
42	62.62	105.15	124.26	21.21	16.00	21.25	Placebo	14.98	12.85*	12.26*	Placebo	0.78*		

REFERENCE

Chauhan, B.L. and Kulkarni, R.D., IV World CPT, July '89 Heidelberg.