Liver lipoperoxidative pressure and glutathione status following acetaldehyde and aliphatic alcohols pretreatments in the rat

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Acetaldehyde administration (0.3 g/kg) to rats fasted overnight induces a reduction in liver reduced glutathione (GSH) content and stimulates lipid peroxidation. An additive effect in the decrease in liver GSH is observed when a non-peroxidating dose of ethanol (3 g/kg) is given previously to acetaldehyde, resulting in GSH levels similar to those elicited by 5 g of ethanol/kg. The administration of equivalent doses of n-propanol, i-propanol, n-butanol and t-butanol produces a progressive abolishment of the decrease in liver GSH content and of the increase in lipoperoxidation, compared to ethanol ingestion. These changes are correlated with the reactivities of alcohol dehydrogenase and microsomal alcohol oxidizing system with the alcohols studied.