

Effect of epinephrine and alprenolol on ethanol metabolism, liver cell respiration and mitochondrial function

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Chronic administration of epinephrine to adult male rats resulted in a significant increase in the rate of ethanol elimination, when given alone or together with the β -adrenergic blocker alprenolol¹. This effect was observed concomitantly with an increased hepatic oxygen utilization and no changes in mitochondrial respiratory functions. Epinephrine given acutely did not modify the rate of ethanol metabolism. Blood glucose levels were enhanced in these conditions, but were unaffected in rats treated with epinephrine plus alprenolol. These results suggest that chronic epinephrine treatment induces an increased oxidative capacity in the liver characterized by enhanced rates of oxygen uptake and ethanol metabolism, which is not related to its β -adrenergic actions. © 1979 S. Karger AG, Basel.