Age?dependent changes in in vivo ethanol metabolism and in the activity of hepatic enzymes involved in ethanol oxidation and microsomal functions

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The study of the influence of the age of the animals (13 to 53 weeks) on the rate of ethanol metabolism in vivo and the total activity of liver alcohol dehydrogenase and microsomal ethanol oxidizing system showed a progressive decline with age. These effects were observed concomitantly with a diminution in the content of cytochrome P?450 and microsomal functions related to oxidative and free?radical mediated reactions, namely, NADPH oxidase activity, NADPH?dependent oxygen uptake and NADPH?or t?butyl hydroperoxide?induced chemiluminescence. It is concluded that ageing is accompanied by a diminution in the total oxidative activity of the liver tissue, which would explain the depression in basal and ethanol?induced lipid peroxidation found in the oldest group of rats studied.