

Modulation of rat liver microsomal and peroxisomal fatty acid oxidation by different metabolic states

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The ω -hydroxylation of a fatty acid catalized by cytochrome P450 and its last oxidation catalized by an alcohol and aldehyde dehydrogenase, generate the corresponding dicarboxylic acid, preferentially chain shortened by the peroxisomes. The laurie acid ω -hydroxylation catalized by cytochrome P450 and the 13-oxidation of palmitoil CoA catalized by the peroxisomes were studied in liver of rats with chronic alcoholism, cholestasis (7 days of bile duct ligation) and 48 hrs. staxvation. The starvation and the ethanol treatment increased the microsomal and the peroxisomal oxidation of fatty acids. In contrast, the cholestasis decreased these microsomal and peroxisomal activities. The high correlation between both processes suggest a cause-effect relationship between the microsomal and peroxisomal oxidation of fatty acids in the experimental models used. These results support the hypothesis that in the liver the microsomal ω -hydroxylation and the peroxisomal O-oxidation of fatty acids would c