

## Nutrition-related alterations in liver microsomal testosterone hydroxylases

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The oxidation products of testosterone formed by liver microsomes from normal-fed and protein-energy malnourished male rats have been analysed by HPLC. Microsomes from normal-fed rats oxidized testosterone at a rate of 4.52 nmol/min/mg protein. The major products formed were: 6 $\alpha$ -, 7 $\alpha$ - and 16 $\alpha$ -hydroxytestosterone; these three metabolites represented 65% of the total testosterone metabolism. Microsomes from protein-energy malnourished rats oxidized testosterone at a reduced rate of 2.03 nmol/min/mg protein. The major product formed was 7 $\alpha$ -hydroxytestosterone, which accounted for 43% of total testosterone oxidation. Microsomes from protein-energy malnourished rats showed a CO-reduced cytochrome P-450 spectra with a maxima at 452 nm, and a 38% decrease in the total content of cytochrome P-450. Some testosterone hydroxylases were drastically affected by protein-energy malnutrition but others, such as 7 $\alpha$ -hydroxylase, remained unchanged. The present results suggest that nutritional status