Leucine and Glucose Turnover in Chronic Alcoholics During Early Abstinence and After an Ethanol Load

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We studied leucine turnover using a primed infusion of [1?14C]?l?leucine and glucose turnover using a primed infusion of [6?3H]?d?glucose in five alcoholic patients without liver damage and five age?matched controls. Infusions were maintained for 6 hr, and at the end of the 3rd hour, a 0.8 g/kg iv ethanol load was administered in 20 min. Leucine flux, nonoxidative disposal and oxidation rates, and glucose rate of appearance were calculated during the 3rd and 6th hours of infusion. Ethanol disappearance rate and the percentage completely metabolized to CO2 and H2O in 3 hr were also calculated. Compared with controls, alcoholics had significantly higher basal leucine flux (55.6 ± 12 vs. 37.3 ± 9.3 ?m/m2/min) and nonoxidative disposal (48.7 ± 8.7 vs. 31.1 ± 7.5 ?m/m2/min). No differences were observed in basal glucose appearance rates in alcoholics and controls (397.6 ± 115.2 vs. 349.4 ± 120.6 ?m/m2/min). Compared with controls, alcoholics had a higher alcohol disappearance rate (2.72 ± 0