

Enhancement in liver SREBP-1c/PPAR-? ratio and steatosis in obese patients: Correlations with insulin resistance and n-3 long-chain polyunsaturated fatty acid depletion

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Sterol receptor element-binding protein-1c (SREBP-1c) and peroxisome proliferator-activated receptor-? (PPAR-?) mRNA expression was assessed in liver as signaling mechanisms associated with steatosis in obese patients. Liver SREBP-1c and PPAR-? mRNA (RT-PCR), fatty acid synthase (FAS) and carnitine palmitoyltransferase-1a (CPT-1a) mRNA (real-time RT-PCR), and n-3 long-chain polyunsaturated fatty acid (LCPUFA)(GLC) contents, plasma adiponectin levels (RIA), and insulin resistance (IR) evolution (HOMA) were evaluated in 11 obese patients who underwent

subtotal gastrectomy with gastro-jejunal anastomosis in Roux-en-Y and 8 non-obese subjects who underwent laparoscopic cholecystectomy (controls). Liver SREBP-1c and FAS mRNA levels were 33% and 70% higher than control values ($P < 0.05$), respectively, whereas those of PPAR- α and CPT-1a were 16% and 65% lower ($P < 0.05$), respectively, with a significant 62% enhancement in the SREBP-1c/PPAR- α ratio. Liver n-3 LCPUFA levels were 53% lower in ob