Assessment of liver inflammation and fibrosis after weight loss secondary to bariatric surgery in patients with Nonalcoholic fatty liver disease.

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Abstract

Non-alcoholic fatty liver disease (NAFLD) is characterized by fatty infiltration and marked activation of inflammatory cells and cytokines (1-2). In obese patients, bariatric surgery has been shown to reduce effectively liver steatosis and inflammation with controversy when it comes to liver fibrosis(3-6). In this study we examined the effect of bariatric surgery on systemic inflammation in patients with NAFLD. The samples were collected prospectively as part of prospective study (number: NCT01619215).

OBJECTIVE

The present study aims to assess the correlation between liver function, systemic inflammatory markers, and liver histological changes in NAFLD patients undergoing bariatric surgery.

METHODS

Blood samples were obtained at two time points: just prior to surgery and 3 months post-operatively. Samples obtained to evaluate liver function, selected metabolic, and inflammatory markers.

RESULTS

total of 51 patients (16 male, 35 female) with a mean age of 33.6 (SD=9.5), The median body mass index changed from 43.9±8.7kg/m2 to 37.4±11.6kg/m2 (p-value <0.0001). ALT dropped from 36±23.3 to 34±13.6 (p-value=0.03), IL1 decreased from 3.2±331 to 3.2±431 (p-value<0.0001), MCP1 decreased also from 611.9±393 to 550.4±443 (p-value=0.01), microvascular steatosis percentage dropped from 3±12 to 1±10 (p-value=0.0003) and macrovesicular steatosis percentage changed from 15±24 to 2±18 (p-value<0.0001).

Our result revealed that liver function and systemic cytokines are improved along with histopathological changes in NAFLD patients 3 months following bariatric surgery. Further work is needed to study the long-term effects on these markers.

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