

STUDY ABSTRACT MEAL REPLACEMENT

Metabolic Response to a Pre-Op Liver Reduction Diet Using Bariatric Fusion® Complete Nutrition

BACKGROUND: It is recommended that Roux-en-Y gastric bypass be preceded by a 2 week high-protein liquid diet to reduce liver size. We sought to determine the effects of Bariatric Fusion® Complete Nutrition on insulin resistance in patients with morbid obesity and Type 2 diabetes mellitus (T2DM).

METHODS: 15 patients with morbid obesity and T2DM underwent a 2-week dietary intervention with Bariatric Fusion® Complete Nutrition consisting of four daily shakes (7g carb, 0g fat, 27g protein) mixed with water or skim milk (9 g carb, 0g fat, 6g protein). Patients were instructed to consume a minimum of 64 oz of clear liquids (i.e. water, flavored water, Crystal Light, Propel). Thus, the 14-day dietary intervention had a strict range of 560-920 calories distributed as 28-64g carb, 0g fat, and 108-132g protein. Anthropometric characteristics and a fasting blood draw were performed immediately prior to the start of the diet (day 0) and on the day of surgery (day 14).

RESULTS: Following the 2-week dietary intervention, weight was significantly decreased from 340.0 ± 72.9 to 328.9 ± 72.9 pounds ($p < 0.001$). Also reduced were fasting plasma glucose (148.5 ± 30.6 vs. 123.15 ± 35.6 mg/dL, $p = 0.0169$) and insulin (19.0 ± 11.0 vs. 13.5 ± 5.7 $\mu\text{u/ml}$, $p = 0.0236$) concentrations. Insulin resistance as determined by the homeostasis model of assessment (HOMA-IR) was diminished from 7.3 ± 4.9 to 4.1 ± 2.0 ($p = 0.0140$).

CONCLUSION: A 2 week Bariatric Fusion® Complete Nutrition diet was associated with significant weight loss and correction of the insulin resistant state in patients with morbid obesity and T2DM. These findings demonstrate a metabolic benefit of Bariatric Fusion® Complete Nutrition in addition to the technical benefit of reduction of liver size.

