

CASE #1161: A Case Study Evaluating the Effects of a Medical Food for Bariatric Surgery Patients on Lean Body Mass, Energy Levels, and Overall Health

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PURPOSE

The purpose of this study was to show how a medical food specially designed for nutritional support of bariatric patients may help promote lean body mass and address fatigue and weakness during post-operative recovery.

PATIENT'S PRESENTATION AND HISTORY

A 34-year-old female presented for post-bariatric surgery follow-up. She had undergone an open Roux-en-Y divided gastric bypass and cholecystectomy 20 months prior. Although the patient did very well with regard to weight loss (a reduction of 135 lb—from 278 lb to 143 lb—98% of excess body weight), she had developed fatigue, weakness, and hair loss. The patient did not eat breakfast, and a review of her diet indicated an inadequate protein intake (estimated at <50 grams daily). She had not lost any weight for the last 6 months, and she was exercising regularly.

Health History:

- Lifestyle: rare alcohol use; non-smoker
- Allergies/intolerances: none
- Past medical conditions: esophageal reflux, asthma, endometriosis, gestational diabetes
- Surgical history: Caesarian sections (1993, 1998); diagnostic laparoscopy (1996)
- Family history: notable for colon cancer and significant cardiac disease
- Current medications and supplements: ferrous sulfate, 325 mg daily; multivitamin, daily; vitamin B₁₂, 1000 µg daily; stool softener, as needed

Initial Clinical Information:

- Height was 64", weight was 143 lb, and blood pressure was 126/70
- Body mass index* (BMI) was 24.5 kg/m²
- Physical examination was essentially unremarkable except for lax skin, a well-healed upper midline incision, and slight overhanging pannus
- Body composition analysis: fat weight was 10 lb above maximum for height; phase angle[†] was low
- Laboratory findings: unremarkable except for slightly elevated vitamin B₁₂ (1,035 pg/mL)

PLAN

The patient's fatigue, weakness, and hair loss were related to her loss of lean body mass. The excess body fat of 10 lb also needed to be addressed. She was instructed to:

- Increase her dietary protein by adding a bariatric medical food that provided 510 kcal and 60 grams of protein daily
- Switch to vitamin B₁₂ 200 µg weekly.

RESULTS

3 Weeks after Starting the Plan

At the 3-week visit, the patient's weight had remained the same (143 lb); however, a bioimpedance analysis (BIA) indicated a gain of 3 lbs of lean muscle mass (Figure 1) and loss of 3 lbs of fatty tissue, as well as an increase in intracellular fluid and an improved phase angle.

The patient noted a substantial increase in energy and well-being, and her clothes were fitting much more loosely. Her bowel function was normal, without any abdominal discomfort. She was instructed to continue on the current regimen.

14 Weeks after Starting the Plan

At her 14-week visit, the patient continued to feel well, although she admitted to decreasing her intake of the medical food and eating some prohibited foods while on a family vacation. She had lost 1 lb, her blood pressure had dropped (to 110/62), and her phase angle had continued to improve (Figure 2). She had not noticed any additional hair loss.

Because the patient needed to raise her dietary protein intake to increase her lean body mass by approximately 5 to 8 lb, the importance of taking the full dosage of the bariatric medical food was emphasized.

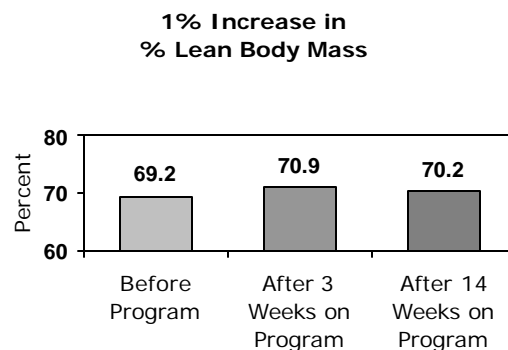


Figure 1. After 14 weeks on the program, the patient's lean mass increased from 69.2% to 70.2% with use of the bariatric medical food. This result suggests that the addition of the bariatric medical food not only may help preserve lean mass, but actually may promote an increase.

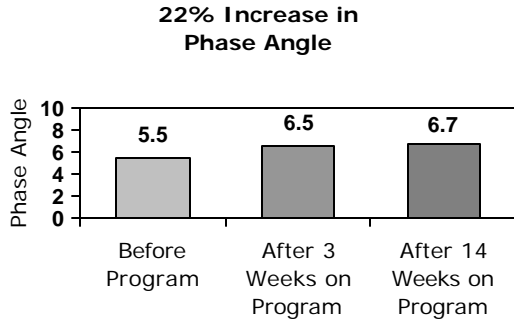


Figure 2. As determined by BIA, the patient's phase angle increased from 5.5 to 6.7 in a 14 week period. This result suggests improved cellular integrity and overall health with use of the bariatric medical food.

SUMMARY

This case study suggests that use of the bariatric medical food in bariatric surgery patients may promote lean mass increase, as well as positively affect well-being, energy levels, cellular integrity, and overall health.

NOTE

The information provided in this case study describes the results of one patient under the care of a licensed healthcare practitioner and may not be a typical response. The medical food discussed in this study is to be used under the supervision of a physician or other licensed healthcare practitioner.

This study was conducted in cooperation with the Functional Medicine Research Center (FMRC), the clinical research arm of Metagenics, Inc. Dan Lukazcer, ND, is the Director of Clinical Research at the FMRC.

*BMI is the Body Mass Index and can be computed by the weight (kg) divided by the square of the height (m).

[†]Phase angle is based on total body resistance and reactance and is independent of height, weight, and body fat. Lower phase angles appear to be consistent with either cell death or a breakdown of the cell membrane. Higher phase angles appear to be consistent with large quantities of intact cell membranes and body cell mass. All living substances have a phase angle.

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