CASE #1160: Evaluating the Effectiveness of a Medical Food Designed for Bariatric Surgery Patients on Enhancing Lean Muscle Mass and Improving Health Issues Associated with Altered Body Composition

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PURPOSE

The purpose of this case study was to show how nutritional support featuring a medical food designed for bariatric surgery patients may be useful in enhancing lean muscle mass, improving health issues associated with altered body composition, and addressing factors associated with post-operative recovery.

PATIENT'S PRESENTATION AND HISTORY

A 47-year-old obese female presented for consideration of weight-loss surgery with a lifelong history of obesity and an inability to lose weight on either self-initiated or physician-supervised dietary programs. At the time of presentation, she suffered from gastro-esophageal reflux disease (GERD), which had become refractory to maximal medical therapy, as well as hypertension, chronic knee and ankle pain, chronic shortness of breath, and narcolepsy.

Health history:

- Lifestyle: discontinued tobacco use 17 years earlier; drank 1 glass wine daily
- Surgical history: otoplasty; rhinoplasty; D&C
- Allergies/intolerances: none
- Current medications: pemoline 75 mg daily for narcolepsy and esomeprazole 40 mg daily for GERD
- Family history: both parents were extremely heavy, and suffered from bipolar disorder and depression; sister was very heavy, diabetic, hypertensive with various gastric problems; and breast cancer in both grandmothers

Initial Clinical Information:

- Height was 67", weight was 249 lb, and blood pressure (BP) was 150/100
- Body mass index (BMI)* was 39.0, lean body mass was 46.3%, and fat mass was 53.7%
- Laboratory results were within reference ranges
- Physical examination was unremarkable except for 1+ to 2+ pitting edema in her lower extremities.

PRE-OP PLAN

Following extensive medical and psychological evaluations, the patient was determined to be a suitable candidate for laparoscopic gastric bypass surgery.

Beginning 1 month prior to surgery, she was instructed to begin:

- Medical food designed for bariatric surgery patients supplying 255 kcal and 30 grams of protein, 3 servings per day

INITIAL POST-OP PLAN

The laparoscopic divided Roux-en-Y gastric bypass was performed and the procedure was well tolerated.

On the 2nd post-operative day, the patient began:

- Chewable multivitamin, one time daily
- Vitamin B_{12} 2000 mcg (single dose lozenge), one time per week

On the 3rd post-operative day, she was instructed to:

- Increase medical food designed for bariatric patients to 6 servings, sipping throughout the day
- Consume protein-based liquid meal, one per day

1-MONTH POST-OP VISIT

The patient was recovering well. An abdominal exam revealed that all wounds were healing nicely, without evidence of infection or herniation.

Her weight was down to 235 lb (loss of 14 lb/14% of excess body weight) and her BP had normalized. She was advised to continue drinking 6 servings daily of the medical food, and supplements as directed. She was allowed to substitute a single solid protein-based meal for the liquid protein meal.

3-MONTH POST-OP VISIT

One month after surgery, the patient's weight was 205.5 lb (loss of 43.5 lb/44% of her excess body weight) and BP was 120/73. She reported being extremely pleased with her progress.

She was eating very small amounts of regular, protein-based foods, and had continued the bariatric medical food and supplements as prescribed. Her GERD symptoms had dramatically improved. There had been no changes in her narcolepsy symptoms.

She was advised to continue drinking 6 servings daily of the medical food, and supplements as directed.

6-MONTH POST-OP VISIT

The patient was doing very well overall and had begun exercising on a regular basis. She now weighed 185 lb (a total weight loss of 64 lb/65% of excess body weight). Her BP continued to be normal at 124/70. A body composition analysis revealed a decrease in BMI to 29.0 kg/m^2 and a gain in lean body mass.

She had reduced the medical food to 3 servings per day, and continued her regular dietary intake and vitamin supplementation. She was instructed to increase the bariatric medical food back to 6 servings daily.

10-MONTH POST-OP VISIT

The patient had been doing remarkably well and reported that she was jogging, in spite of some low back pain. She had continued to drink only 3 servings of the bariatric medical food per day, while continuing her regular dietary intake and vitamin supplementation. At the time of the visit she weighed 166 lb, a decrease of 19 lb since the previous visit, her BMI was 26.0 kg/m^2, and her BP was 108/70.

A body composition analysis revealed continued improvement in lean mass and a loss of 84% of her excess body weight. Her basal metabolism rate had continued to increase, and was exceeding her pre-operative state.

She was advised to increase the bariatric medical food back to 6 servings daily, and continue on the supplementation as instructed.

43% Increase in % Lean Body Mass

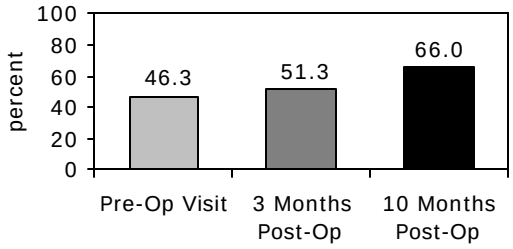

Figure 1. At the patient's 10-month post-op visit, her lean body mass had improved from 46.3 to 66.0 on the program that included a medical food designed for bariatric surgery patients.

33% Improvement in BMI

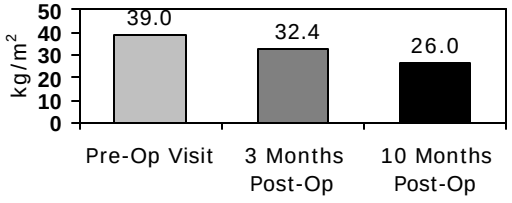

Figure 2. The patient's BMI* had decreased from 39.0 to 26.0 with the incorporation of the medical food for bariatric patients and lifestyle changes.

Decrease in Blood Pressure

	Pre-Op Visit	3 Months Post-Op	**10 Months Post-Op**
Systolic BP	150	120	**108**
Diastolic BP	100	73	**70**

Table 1. At the patient's 10-month post-op visit, her BP readings had decreased from 150/72 to 108/70 with the inclusion of the medical food designed for bariatric patients and lifestyle changes.

SUMMARY

This case study suggests that consumption of a targeted medical food designed for bariatric patients may assist in promoting lean muscle mass and improving blood pressure in patients recovering from bariatric surgery. In this case, the patient's GERD symptoms had also markedly improved.

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.

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

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