

Case # 1162: Evaluating the Effectiveness of a Medical Food Designed for the Specific Needs of Bariatric Patients

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PURPOSE

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

PATIENT'S PRESENTATION AND HISTORY

A 47-year-old 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. She could not use weight loss prescriptions because of medical conditions. At the time of presentation, she suffered from insulin-dependent diabetes, diabetic neuropathy (left facial numbness), gastro-esophageal reflux disease (GERD), hypertension, hyperlipidemia, depression, stress urinary incontinence, fatigue, chronic leg swelling, and dyspnea (shortness of breath).

Health history:

- Lifestyle: no regular exercise because of weight-induced fatigue
- Surgical history: laparoscopic cholecystectomy (gall bladder removal) and 2 sinus surgeries
- Allergies/intolerances: codeine and hydrocodone
- Current medications: humulin 70/30 insulin, 40 units twice daily; rabeprazole, 20 mg daily; metformin HCl, 1000 mg three times daily; lisinopril, 20 mg twice daily; pioglitazone HCl, 30 mg daily; fluoxetine HCl, 60 mg daily; simvastatin, 20 mg daily; and medroxyprogesterone acetate, 10 mg daily
- Family history: mother alive at 81, slightly overweight; father deceased at 83, aneurysm and congestive heart failure; and other family history of cardiac disease, diabetes, and colon cancer

Initial Clinical Information:

- Height was 63", weight was 288 lb, and blood pressure (BP) was 154/72 (Table 1)
- Body mass index (BMI)* was 51.0 kg/m², lean body mass was 41.5%, and fat mass was 58.5% (Figures 1 and 2)
- Elevated glucose (158 mg/dL) and hemoglobin A1C (8.3%)
- Pulmonary function testing revealed mild restriction with no airflow obstruction
- Physical examination revealed vague sensory changes on the left side of her face, a large abdomen, striae, incisions consistent with previous surgical history, and 1+ pretibial edema

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 B₁₂ 2000 mcg (single dose lozenge), one time weekly

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

- Medical food designed for bariatric patients, sipping 6 servings throughout each day
- Protein-based liquid meal, one per day

9-DAY POST-OP VISIT

Except for mild nausea, the patient was recovering well. An abdominal exam revealed that all wounds were healing nicely, without evidence of distension, infection, or herniation.

Her weight was down to 269 lb (a loss of 19 lb/12% of excess body weight) and her BP had dropped to 122/68. She was advised to continue the program.

1-MONTH POST-OP VISIT

One month after surgery, the patient's weight was 250 lb (loss of 38 lb/25% of her excess body weight) and BP was 134/68 (Table 1). She reported doing quite well. She was not taking the powdered bariatric beverage consistently, drinking only 3 servings daily or sometimes none at all. She tolerated increasing her fluid intake, although her urine appeared to be slightly darker in color.

The patient's body composition analysis demonstrated loss of fatty tissue and loss of almost 10 lb of lean mass. A catabolic state had resulted from inadequate dietary protein intake.

The need to increase protein intake was strongly reinforced, and the patient was instructed to:

- Gradually reintroduce solid foods
- Continue taking bariatric medical food, 2 servings daily
- Continue taking the multivitamin and extra vitamin B₁₂
- Exercise when she could

2-MONTH POST-OP VISIT

The patient was doing very well overall and her wounds continued to heal nicely. A large abdominal pannus was developing.

She now weighed 240 lb (a total weight loss of 48 lb/31% of excess body weight, with brisk fatty tissue loss). Her BP was 112/60 (Table 1), a remarkable improvement from initial hypertension. Her blood sugar had stabilized (currently averaging 130 mg/dL) and she was no longer taking insulin.

The patient's primary physician prescribed a decrease in dosage of metformin to 500 mg three times daily. He also instructed her to discontinue the lisinopril, rabeprazole, fluoxetine HCl, simvastatin, medroxyprogesterone acetate, and pioglitazone HCl.

She was consistently drinking 6 servings of the medical food daily, and reported feeling stronger and having more energy. She no longer noted hair loss. Her dietary protein intake was now adequate, with reversal of the catabolic state. A body composition analysis revealed a decrease in BMI and a gain in lean body mass (Figures 1 and 2).

She was instructed to continue with her current protein intake for an additional 1-2 months, then possibly reduce the bariatric medical food to 3 servings daily.

Decrease in BP Readings

	Pre-Op Visit	1-Month Post-Op Visit	2-Month Post-Op Visit
Systolic BP	154	134	112
Diastolic BP	72	68	70

Table 1. At the patient's 2-month post-op visit, her BP readings had improved from 154/72 to 112/70 with the incorporation of the medical food designed for bariatric patients.

16.6% Improvement in BMI

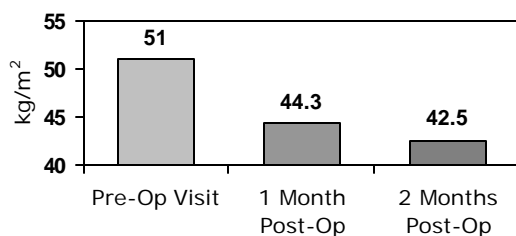


Figure 1. The patient's BMI * had decreased from 51 to 42.5 only 2 months after bariatric surgery with the incorporation of the medical food for bariatric patients.

4.4% Increase in % Lean Body Mass

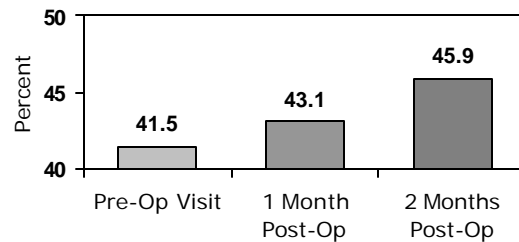


Figure 2. Two months after bariatric surgery, the patient's lean body mass had increased from 41.5% to 45.9% with the inclusion of the targeted medical food.

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 glucose levels and BP—along with supporting tissue health and repair, hair growth, and energy levels.

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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