

Case # 1415: A Case Study Evaluating the Effects of a Plant Sterol and Soy Protein Medical Food Program and an RIAA/Acacia Nutritional Supplement for Insulin Function Support in an Obese Patient with Wheezing and Insulin Resistance

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PURPOSE

The purpose of this study was to assess the effectiveness of a plant sterol and soy protein medical food (provided in powdered beverage form) used in combination with an RIAA/Acacia nutritional supplement for insulin function support—along with lifestyle modifications—in an obese patient with wheezing and insulin resistance.

PATIENT'S PRESENTATION AND HISTORY

A 54-year-old obese male presented with concerns of persistent wheezing and early insulin resistance. He developed a cough 1.5 years earlier when in the habit of smoking 2 cigars per month, which he stopped 6 months later. Wheezing started 6 months prior to presentation and was treated with a course of antibiotics with good results, but returned 3 months later after contracting pneumonia—treated with antibiotics plus an inhaler with noted improvement. Other complaints included an approximate 15% decrease in energy during the past year; weight gain of 15 lbs over 2 years attributed to decrease in physical activity and increased consumption of food and sweets; memory loss; and headaches attributed to spine misalignment.

The patient's medical history included hepatitis at age 7, mold exposure in 2003 and subsequent exposure, and a rash with flaking skin at age 54 treated with corticosteroids. Previous surgeries included oral surgery at age 52, root canals at ages 48 and 52, and colonic polyps removed at age 54. He had a family history of type 2 diabetes, hypertension, and Alzheimer's disease.

Patient's Objective Information

- HT: 66.5"; WT: 186.8 lb; BP: 119/80
- BMI: 30.1 kg/m²
- Prescriptive medications/supplements: none
- Significant laboratory findings: elevated cholesterol (tChol), triglycerides, and tChol to HDL-cholesterol (HDL-C) ratio; elevated hs-CRP; borderline high Hg1AC; elevated erythrocyte sedimentation rate (ESR).

PLAN AND RESULTS

The patient was instructed to start a low-glycemic-load (LGL) diet with no caloric restrictions.

1 Week After Starting the Program

The patient lost 6.8 lbs after giving up sodas and candy and following the LGL diet. He reported more energy and the cessation of headaches, as well as an estimated 50% improvement in coughing and sneezing. The patient was then instructed to:

- Add plant sterol/soy protein medical food beverage, 2 scoops twice daily
- Begin nutritional supplement containing reduced iso-alpha acids (RIAA) from hops (*Humulus lupulus*) and *Acacia nilotica* extract, 1 tablet twice daily

4 Weeks After Starting the Program

Along with an additional 4 lb weight loss and decrease in BP (108/77), the patient reported an increase in physical activity and energy. His cough decreased to 3 times daily, though wheezing still occurred in late evening, early morning, and when hiking. Compliance with diet and nutritional supplements was good, and the patient was instructed to the continue plan.

8 Weeks After Starting the Program

The patient had difficulty following the diet while on vacation, but did not gain weight. He felt well and energy continued to improve. He was exercising and biking 3 times weekly. His cough had improved and wheezing occurred only a few mornings weekly. Laboratory results were much improved from initial values. The patient was instructed to:

- Add a soy protein medical food in bar form, once daily
- Begin lifting weights
- Continue the medical food beverage and RIAA/Acacia supplement

12 Weeks After Starting the Program

The patient reported improvements in eating habits and increased energy. His cough had subsided, but he still had occasional wheezing in the late evening. The patient was instructed to improve diet adherence and:

- Continue medical food beverage twice daily (one as breakfast, the other as a snack)
- Continue RIAA/ Acacia supplement, twice daily

16 Weeks After Starting the Program

Although his travel schedule increased, the patient attempted to eat more regularly and often, making better choices. He continued to lift weights and felt more fit and energetic. Coughing was only occasional, and wheezing was estimated at a 75% reduction from start the of program. The patient was instructed to:

- Continue medical food beverage twice daily
- Increase RIAA/ Acacia supplement to three times daily

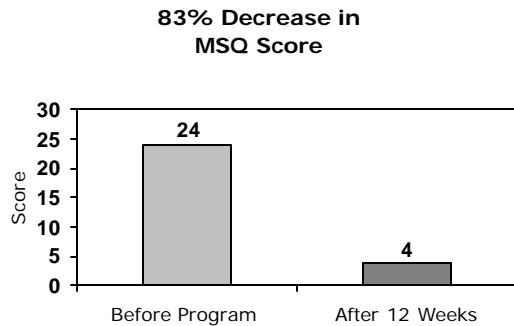


Figure 1. After 12 weeks, the patient's MSQ* score decreased from 24 to 4, suggesting a noteworthy improvement in general symptoms.

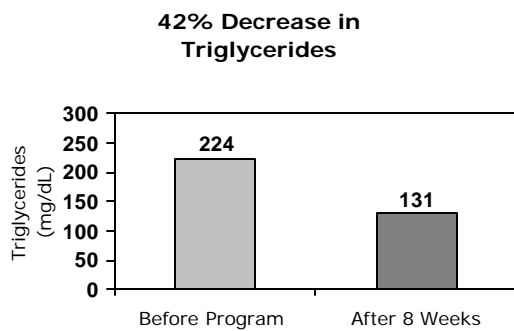


Figure 2. After 8 weeks, the patient's triglyceride level was reduced from 224 mg/dL to within reference range at 131 mg/dL (reference range: 10-175 mg/dL). This result indicates a substantial improvement in the patient's triglyceride levels.

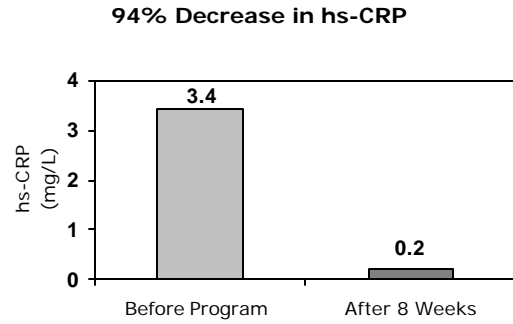


Figure 3. After 8 weeks, the patient's hs-CRP level was reduced from a moderate risk range at 3.4 mg/L to below a low risk range at 0.2 mg/L (low risk reference range: 0.7-1.1 mg). This result suggests a significant reduction in risk for issues related to cardiovascular disease.

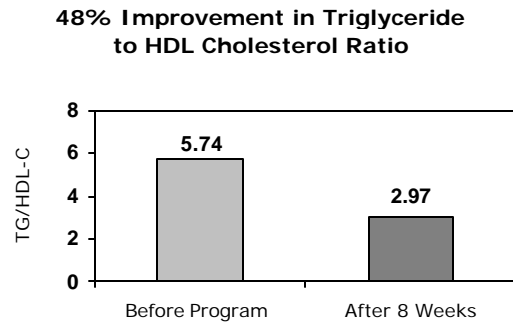


Figure 4. After 8 weeks, the patient's TG/HDL-C ratio improved from 5.74 to 2.97 (reference range: >3.0). This result suggests a noteworthy improvement in the patient's blood lipid levels and insulin sensitivity.

SUMMARY

This case study suggests that a targeted nutritional support program that incorporates a plant sterol and soy protein medical food, dietary supplement for insulin function support, and lifestyle modifications can improve blood lipid levels, markers of insulin resistance, and other aspects of health associated with insulin resistance.

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 plant sterol and soy protein medical food, as well as the soy protein medical food bar, discussed in this study are to be used under the supervision of a physician or other licensed healthcare practitioner.

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*The Medical Symptoms Questionnaire (MSQ) is a clinical tool for the evaluation of general physical symptoms. Total scores above 75 are generally associated with substantial symptomatology and disability; scores below 30 generally indicate few or low-intensity symptoms.

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

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