

CASE STUDY #1174: A Case Study Evaluating the Effects of a Combination Formula including Chromium, Green Tea, Cinnamon, and Alpha-Lipoic Acid and a Medical Food for Altered Body Composition in an Obese Male with Type 2 Diabetes

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PURPOSE

The purpose of this case study was to show how a combination formula including chromium, green tea, cinnamon, and alpha-lipoic acid, a medical food for altered body composition, and dietary and lifestyle changes may be useful in the management of type 2 diabetes mellitus.

PATIENT'S PRESENTATION AND HISTORY

A 43-year-old obese male presented with chief complaints of paresthesias and numbness in his left foot for the previous 6 months, as well as nighttime awakening, increased urination, and increased fatigue. Over the prior 20 years he had steadily put on weight. He consumed a standard American diet and did not exercise. He had a history of drug addiction and heavy smoking; however, he had been drug-free for the previous few years.

His current health history included erectile dysfunction for the previous 5 years and an abdominal hernia of unknown duration. Past history was significant for hepatitis A, hemorrhoids, sinusitis, and chronic knee pain secondary to sports injury.

No family history was available as the patient had been adopted.

Initial Clinical Information

- Height was 70.75", weight was 278 lb, BMI* was 38.8 kg/m², and blood pressure was 124/80
- Physical exam revealed full dentures, white-coated tongue, non-reducible abdominal hernia, some edema in calves, scarring on left shin, bilateral pitting edema in ankles, and tingling and some numbness in 3rd to 5th toes of left foot
- Prescriptive medications and supplements: none
- Significant laboratory findings: elevated glucose, HgA1C, total cholesterol (tChol), and triglycerides (TG); depressed high-density lipoprotein cholesterol (HDL-C)

ASSESSMENT AND PLAN

The assessment indicated type 2 diabetes mellitus, obesity, and peripheral neuropathy in left foot. The patient was instructed to begin:

- Combination formula including chromium, green tea, cinnamon, and alpha-lipoic acid for support of healthy glucose and insulin metabolism, 2 tablets twice daily
- Medical food for altered body composition, 2 scoops twice daily
- Low-glycemic-load dietary program with no caloric restrictions
- Aerobic exercise program, minimum of 20 minutes 3 to 4 times weekly
- Monitoring glucose daily, upon waking and 2 hours after dinner

RESULTS

3 Weeks after Starting the Program

The first 2 weeks, the patient was seen by a nutritionist and coached on diet and exercise. By the 3rd week he was compliant with the diet, although he was still working on portion sizes. He had started to walk 1 to 2 miles daily. The patient was instructed to add alpha-lipoic acid for glucose clearance support, 300 mg twice daily.

5 and 7 Weeks after Starting the Program

At the 5-week and 7-week follow-up visits with the nutritionist, the patient reported he was very pleased with the dramatic changes in his lifestyle, and was eager to firm up the new habits. After 7 weeks, he only had a modest total weight loss of 8 lb since starting the protocol, and had to still work on portion sizes and limiting his grain intake. However, his at-home fasting glucose measurements had decreased considerably to 140s to 150s after 5 weeks and 120s to 130s after 7 weeks.

10 Weeks after Starting the Program

Ten weeks after starting the protocol, the patient continued to make progress with his blood sugar levels, noting averages below 120 mg/dL. He was walking 60 minutes daily. Laboratory tests indicated normalization of tChol and TG and improvement of TG/HDL-C and HgA1C. The patient was advised to continue the program.

51% Decrease in Fasting Glucose

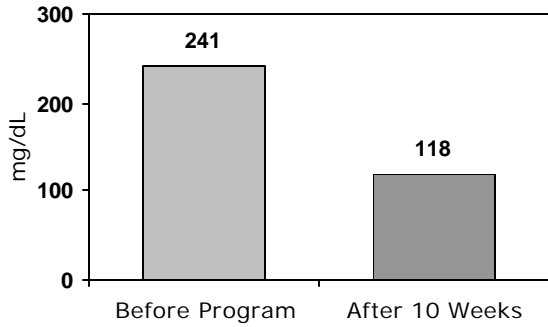


Figure 1. The patient's fasting glucose levels decreased from 241 to 118 mg/dL after 10 weeks on the program with the combination formula including chromium, green tea, cinnamon, and alpha-lipoic acid, a medical food for altered body composition, a low-glycemic-load diet, and regular exercise.

74% Improvement in Triglyceride/HDL-Cholesterol Ratio

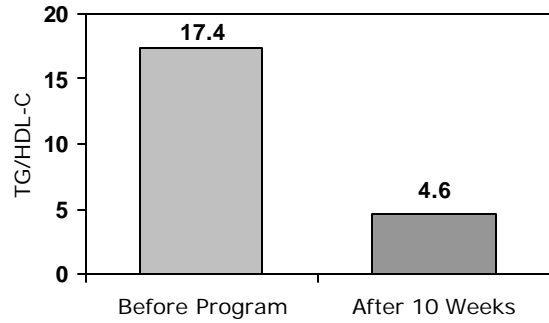


Figure 3. After 10 weeks on the program, the patient's HDL to TG ratio decreased from 17.4 to 4.6, suggesting a considerable improvement in both blood lipid levels and insulin sensitivity.

73% Decrease in Triglyceride Levels

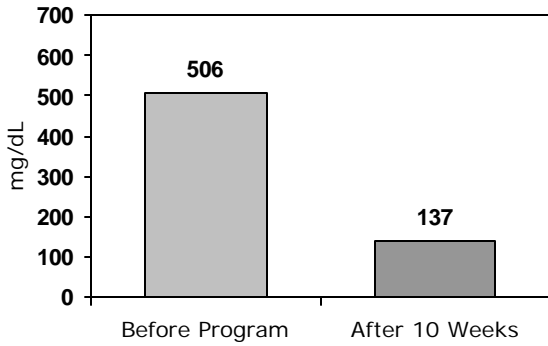


Figure 2. A dramatic improvement in TG level was observed over a 10-week period, with values normalizing to 137 mg/dL after a highly elevated initial level of 506.

SUMMARY

This case study suggests that a combination nutritional supplement for support of healthy glucose and insulin metabolism, a medical food for altered body composition, and positive lifestyle changes can help to improve fasting glucose levels, blood lipid levels, and insulin sensitivity.

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.

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

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