Case #897: A Case Study Evaluating the Effects of a Phytosterol and Soy Protein Functional Food Program in a Patient with Hyperlipidemia

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PURPOSE

The purpose of this study was to assess the effectiveness of a phytosterol and soy protein functional food (provided in powdered beverage form) used in combination with a low-glycemic-index (GI) dietary plan and regular exercise in a patient with hyperlipidemia.

PATIENT'S PRESENTATION AND HISTORY

A 57-year-old female presented with elevated blood cholesterol. Her blood cholesterol had been elevated for the preceding 6 years, and prior to that time had been below 200 mg/dL. The patient reported a steady weight gain of approximately 80 lb over the last 11 years. Although she dieted and exercised to maintain her weight in the past, she had not been able to continue her exercise program due to work-related issues. The patient reported a prior sinus surgery, early onset of menopause at age 38, and a maternal family history of diabetes and hypertension. In addition, she had two siblings with hypertension.

Patient's Objective Information

- BMI† was 33.1 (indicating obesity), weight was 199 lb, and body fat was 42.7% by BIA
- Total cholesterol (245 mg/dL) and LDL cholesterol (161 mg/DL) were elevated
- CBC and chemistry profile were within reference range
- MCS* and PCS* scores were low (indicating compromised functioning)
- No prescriptive medications
- Supplements and OTC medications included multivitamin and mineral (qd), calcium (1200 mg, qd), and aspirin (81 mg, qd)

PLAN AND RESULTS

The patient was instructed to begin:

- Phytosterol and soy protein functional food, 2 scoops bid
- Low-GI dietary plan, 1600 calories per day
- Regular exercise program

4 Weeks after Starting Phytosterol and Soy Protein Functional Food Program

At 8 weeks, the patient continued to do well. Her energy level continued to improve and she reported feeling more clear-headed. The patient's MCS and PCS scores supported this observation, improving to within reference range. She described the program as "absolutely non-painful." She said she could eat a lot and did not feel hungry or experience chocolate cravings.

12 Weeks after Starting Phytosterol and Soy Protein Functional Food Program

After 12 weeks, the patient reported having much more energy than usual, stating "it feels more like me." According to the patient, hunger was not a problem throughout the program. Her BMI† had decreased to 29.2 and her weight was 175 lb, showing a total loss of 23.5 lb. Her laboratory results showed normalized lipid panel and her triglycerides had decreased to mid-reference range. The patient's PCS and MCS scores also showed an improvement in general symptoms.

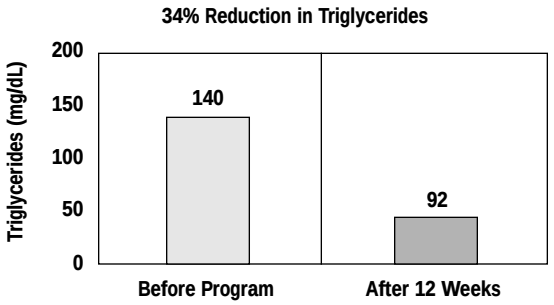

Figure 1. After 12 weeks, the patient's triglycerides decreased from 140 mg/dL to mid-reference range at 92 mg/dL (reference range: 10-175 mg/dL). The result suggests a considerable improvement in the patient's triglyceride level with the phytosterol and soy protein functional food program.

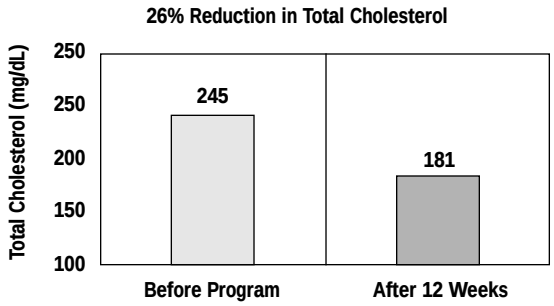

Figure 2. The patient's total cholesterol decreased from 245 mg/dL to 181 mg/dL after 12 weeks (reference range: 120-200 mg/dL). This result suggests a noticeable improvement in the patient's total cholesterol level with the phytosterol and soy protein functional food program.

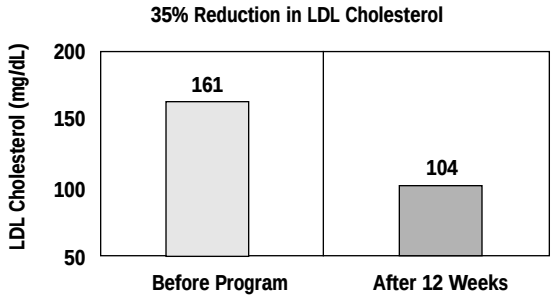

Figure 3. After 12 weeks, the patient's LDL cholesterol decreased from 161 mg/dL to 104 mg/dL (reference range: <130 mg/dL). The result suggests a notable decrease in LDL cholesterol with use of the phytosterol and soy protein functional food program.

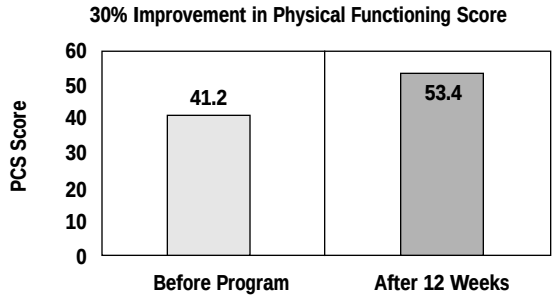

Figure 4. The patient's PCS score increased from 41.2 to 53.4 over a 12-week period (reference range: 50 or above = healthy function). This result suggests a noteworthy improvement in the patient's physical functioning score with use of the phytosterol and soy protein functional food program.

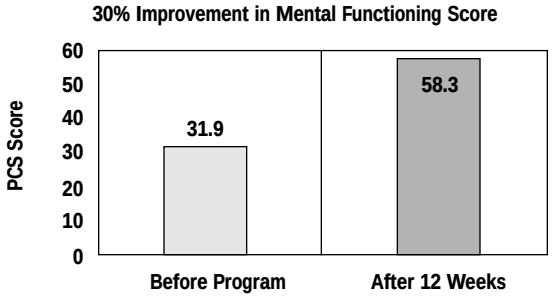

Figure 5. The patient's MCS score increased from 31.9 to 58.3 over the course of 16 weeks (reference range: 50 or above = healthy function). This result suggests a substantial improvement in the patient's mental functioning score with the incorporation of the phytosterol and soy protein functional food program.

SUMMARY

This case study shows that a targeted nutritional support program that incorporates a phytosterol and soy protein functional food, low-GI dietary plan, and regular exercise may result in improved blood lipids and energy.

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 phytosterol and soy protein functional food discussed in this study is to be used under the supervision of a physician or other licensed healthcare practitioner.

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

*The Medical Outcomes Survey SF-36 is a well-validated general quality-of-life questionnaire that summarizes health outcome in two reliable reproducible sources: the Physical Component Summary (PCS) and the Mental Component Summary (MCS). Scores of 50 or higher are associated with healthier individuals, whereas scores lower than 50 indicate compromised functioning.