

Case #1504: A Case Study Evaluating the Effects of a Medical Food Program for Liver Detoxification in a Patient with Fibromyalgia

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PURPOSE

The purpose of this study was to assess the effectiveness of a medical food designed for liver detoxification function support and chronic fatigue syndrome—along with an elimination dietary plan—in a patient with fibromyalgia (FM).

PATIENT'S PRESENTATION AND HISTORY

A 39-year-old Caucasian female presented with a history of FM that was diagnosed after her 30th birthday. Initially, the disease was manifested by sleep pattern changes, and then she developed muscle aches and pains. Medical evaluation did not reveal any significant findings. Initial concerns were that she possibly had multiple sclerosis (MS). She had a brief trial of antidepressants with no relief, but did experience some improvement with self-prescribed herbal treatment. She had a recent flare of FM symptoms after a root canal.

Concurrent conditions included seasonal allergies, food allergies, and low back pain. The patient's medical history included endometriosis, a fractured left foot, soft tissue injury to the left hand, which required debridement, and urinary tract infections status post urethral dilation. Surgeries included a pilonidal cystectomy and urethra dilation. She had a maternal family history of arrhythmia, hypertension, FM, and osteoarthritis.

Patient's Objective/Subjective Information

- HT: 66.5"; WT: 251.2 lb; BP: 129/87
- Subjective symptoms: Compromised physical functioning and presence of pain as indicated by clinical questionnaires.
- Lifestyle: The patient ate an organic diet with whole foods, generally seasonal. She did not eat beef. She exercised 4 times per week—walking or aerobics. She had not been a smoker for 10 years, drank alcohol socially, and had 2 daily shots of espresso.
- Allergies/intolerances: Erythromycin, ibuprofen, codeine, possibly shellfish and certain nuts.
- Prescriptive medications: Ethinyl estradiol and levonorgestrel oral contraceptive, 1 tablet daily.
- Non-prescriptive medications/supplements: Multivitamin, multimineral, vitamin C, calcium, magnesium, evening primrose, garlic, flaxseed oil, and other herbals; nighttime acetaminophen formula as needed.

ASSESSMENT AND PLAN

Initial assessment indicated FM by history and physical exam.

The patient was instructed to:

- Discontinue all supplements except for the flaxseed oil.
- Begin an elimination diet and detoxification protocol, excluding nuts and shellfish.
- Begin rice protein-based medical food for detoxification function support and chronic fatigue syndrome on a slow ramp-up: ½ scoop twice daily for 3 days, then 1 scoop twice daily for 3 days, and 2 scoops twice daily thereafter.

RESULTS

1 Week After Starting Program

The patient's MSQ score had decreased from 66 to 30. She was feeling cranky and hungry, most likely because she was not taking the time to eat or making the right food choices. She was involved in a woman's boot camp exercise program 4-5 times weekly at a high level of intensity, so she was also experiencing an increase in her fatigue. Physical exam revealed good improvement in FM trigger points in several locations, from 1s or 2s to at least 3s, and in some cases from 2s to 4s. Laboratory test results indicated a depressed vitamin D level (10 ng/mL) and a borderline low RBC magnesium (Mg) of 1.7 mmol/L.

3 Weeks After Starting Program

The patient reported feeling better with a reduction in her myalgias. She was still struggling with her food choices and had been only 50% compliant with the medical food during the previous week. The patient had begun to reintroduce foods and had lost 7.5 lb since presentation.

The patient was instructed to:

- Continue medical food, 2 scoops twice daily
- Add vitamin D₃ and isoflavone formula, 1 tablet twice daily.

6 and 8 Weeks After Starting Program

The patient continued to feel better in spite of her ongoing compliance issues and had lost 12 lb since beginning the protocol. No changes were made to the protocol. Laboratory tests at 8 weeks indicated a significant improvement of vitamin D and Mg-RBC levels.

73% Decrease in MSQ Score

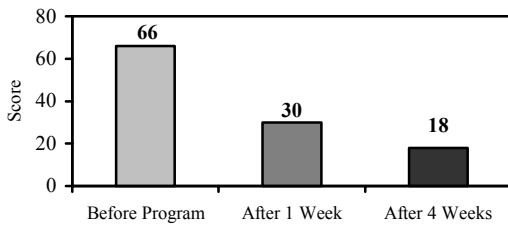


Figure 1. After 4 weeks, the patient's MSQ[†] score decreased from 66 to 18, suggesting a substantial improvement in general well-being.

54% Improvement in MOS-PCS Score

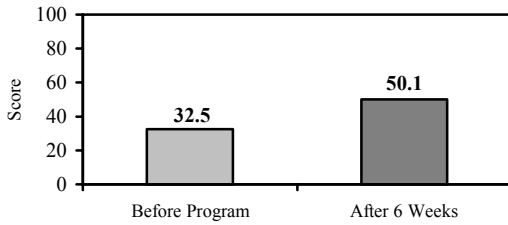


Figure 2. The patient's score on the physical component summary portion of the Medical Outcomes Survey (MOS)* increased from 32.5 to 50.1 (reference range: 50 or above = healthy function). This result suggests an improvement in the patient's physical functioning.

19% Increase in RBC Magnesium Level

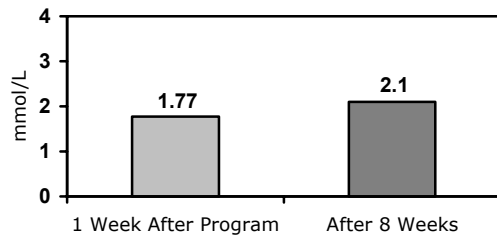


Figure 3. After 8 weeks, the patient's RBC magnesium level increased from 1.77 to 2.1 (reference range 1.65-2.65 mmol/L).

Three-fold Increase in 25(OH) Vitamin D₃ Level

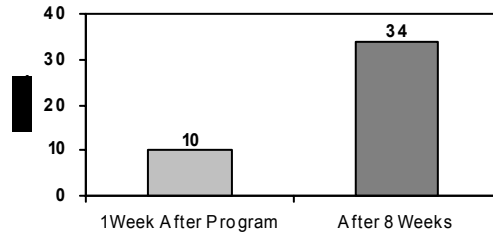


Figure 4. The patient's 25(OH) vitamin D₃ level increased from 10 to 34 (reference range 16-91 ng/mL) in 7 weeks after adding the combination isoflavone and vitamin D₃ dietary supplement.

SUMMARY

This case study suggests that a targeted nutritional support program that incorporates a medical food to support liver detoxification function and chronic fatigue syndrome, along with an elimination diet, can improve symptoms of FM, in spite of challenged compliance. Vitamin D and RBC magnesium levels were also improved with this protocol that included a vitamin D₃/isoflavone combination supplement.

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.

Financial support for this study was provided by Metagenics, Inc. This study was conducted at the Functional Medicine Research Center (FMRC), the clinical research arm of Metagenics, Inc.

[†]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.

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

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