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**NUTRITIONAL SUPPORT USING ULTRAGLYCEMXTM IN A PATIENT WITH HYPERINSULINEMIA AND LETHARGY**

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**Purpose**

To show how nutritional support with UltraGlycemX medical food and dietary intervention may be useful in patients with hyperinsulinemia and lethargy.

**Patient's Presentation and History**

A 55-year-old Caucasian male presented with fatigue, lethargy, and gradual weight gain occurring over the previous three years. The patient had experienced a recent aneurysm in the right parietal lobe resulting in loss of strength and coordination in his right arm. Although not the primary focus of this case study, the patient also complained of lifelong gastrointestinal discomforts. His hypertension was controlled with 25 mg atenolol qd and he reported walking 30 to 45 minutes three times a week for exercise. The patient also had elevated cholesterol levels and was concerned about a high risk for diabetes mellitus since he had a strong family history of the disease. He also had a family history of gout.

**Patient's Objective Information**

- Initial MSQ\* score was elevated at 39
- Laboratory assessment showed somewhat elevated 2-h postprandial insulin; however, 2-h postprandial glucose and fasting insulin were within reference range, and fasting glucose was only slightly elevated
- BMI<sup>†</sup> was 28 (indicating altered body composition) and weight was 195 lbs
- Total cholesterol was elevated (219 mg/dL) and diastolic blood pressure was borderline elevated at 134/84

**Plan**

The patient was placed on:

- UltraGlycemX, 2 scoops bid
- Fish oil supplement (600 mg EPA, 400 mg DHA), 2 g tid
- Conjugated linoleic acid (CLA) with rosemary leaf extract, 1000 mg bid
- Alpha-lipoic acid, 200 mg bid
- Porcine pancreas enzymes, 2 capsules tid
- A low-glycemic -index (GI) dietary plan

**8 Week Results**

After 8 weeks, the patient's 2-h postprandial insulin had improved (Figure 1) and his fasting glucose was within the normal reference range, indicating a clinically relevant response. The CLA and alpha-lipoic acid were discontinued, and the fish oil was decreased to 1 g tid. The patient was still experiencing some heartburn; therefore, the pancreatic enzymes were discontinued and replaced with 40 mg gentian root, 1300 mg betaine HCl, and 90 mg pepsin after meals. He was also started on 1000 mg niacin, 750 mg guggul resin extract bid, and protein consumption was increased by 15 g with a whey and rice protein supplement every morning.

**12 and 18 Week Results**

At 12 weeks, the patient reported his heartburn and indigestion had resolved and that he was feeling very good overall.

At 18 weeks, he reported feeling wonderful—the best he had felt in over 10 years. The patient no longer experienced fatigue and his energy level had improved substantially. His indigestion and heartburn had not returned, and his MSQ score had decreased to 20 (Figure 2). The patient's total cholesterol also improved by 5.5% (from 219 mg/dL to 207 mg/dL), and his BMI improved by 7.14% (from 28 to 26), decreasing four pant sizes.

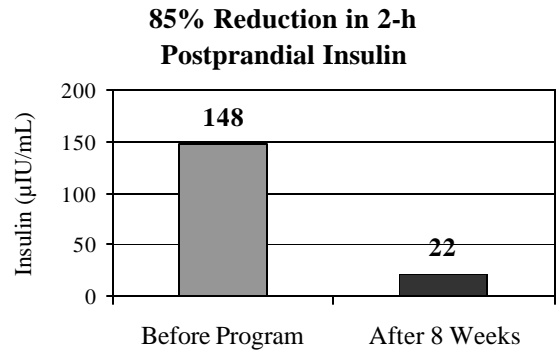
**Conclusion**

This case study suggests that a focused nutrient-based program—such as nutritional support with UltraGlycemX, a fish oil supplement, a low-GI diet, and other targeted nutrients—may be associated with decreased symptoms in patients with lethargy and hyperinsulinemia, including significant improvements in insulin and glucose metabolism parameters. The UltraGlycemX Program may also help improve body composition and cholesterol levels.

**Figure 1**

Within 8 weeks, the patient’s 2-h postprandial was reduced from 148  $\mu$ IU/mL to 22  $\mu$ IU/mL (reference range: 18-56  $\mu$ IU/mL).

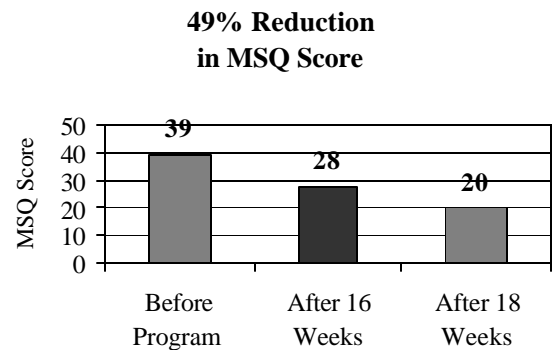
This result indicates a clinically relevant response in glucose/insulin homeostasis.



**Figure 2**

The patient’s Medical Symptoms Questionnaire\* score was reduced from 39 to 20 (reference range: <30 = few or low intensity symptoms) over an 18-week period.

This result suggests a notable decrease in symptoms.



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\*The Medical Symptoms Questionnaire<sup>®</sup> (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.

<sup>†</sup>BMI is the Body Mass Index and can be computed by the weight (kg) divided by the square of the height (m).

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. UltraGlycemX is to be used under the supervision of a physician or other licensed healthcare practitioner.

Case study: Nutritional Support Using UltraGlycemX in a Patient with Hyperinsulinemia and Lethargy. Metagenics, Inc; 004IR803.