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Diabetes and Obesity Reduction From Food Allergen Elimination: A Two-Year Geriatric Case Report

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Keywords

Type II Diabetes Mellitus, Obesity, Myocardial infarctions.

Currently over 10% of adults in the United States (33 million people) have Type II Diabetes Mellitus (DM2) and in 2017 this disease cost the United States over $325 Billion dollars. Incidence of DM2 effects an even greater percentage of the population in Caribbean nation countries such as St Kitts & Nevis (17%) and the long-term costs of DM2 are comparable in the USA and Caribbean countries. Obesity is comorbid with DM2, affecting 40% of the USA population and 23% of the Caribbean populations.

75-year-old female, Caucasian patient presented with a 40-year battle of obesity and 10-year history of Type II Diabetes Mellitus, (initial HbA1c was 8.6% and initial BMI = 31.6 with 41.5kg fat mass). After history review and physical examination, she was tested for sub-acute food allergies (Leukocyte reaction test of 250 foods). The patient showed significant reactions to 29 foods, which were eliminated.

Her results after six months included over 25% reductions in A1c and over 20% reduction in BMI and Fat mass. These results were maintained for two years, and medication for DM2 was sequentially eliminated for this patient.

	INITIAL	6-MONTHS	24-MONTHS
HbA1c	8.20%	6.10%	5.6%
BMI	31.6	25.6	25.1
BP	143/83	125/76	128/78
Fat Mass	41.6kg	34.6kg	33.3kg
Waist	104cm	88cm	89cm

Background

Currently more than 35 million people in the United States have (USA) Type II Diabetes Mellitus (DM2) and in 2017 this disease cost the United States over $327 Billion dollars [1,2]. The DM2 population in the USA showed a 26% increase in the last five years in the USA [1] and while the United Kingdom (UK) has a lower percentage of the population with DM2 (736%) their have an elevated number of myocardial infarctions (MI) and amputations secondary to DM2 [3,4].

DM2 is comorbid with numerous other pathologies including obesity and hypertension [1-3]. The World Health Organization (WHO) and numerous groups have now defined obesity (BMI > 30) as a "disease" and global obesity currently affects over 700 million adults [5-10]. However, there is a paucity of research identifying the causes of this disease. Sub-acute food allergen identification and elimination is novel in obesity reduction; however, food allergen testing has been used for decades in treating migraine headaches, irritable bowel syndrome, etc. [8-10].

Recently a longitudinal case/control study of food allergen elimination for obesity reduction was conducted at three locations in Texas, USA (N=94) [8]. Those subjects were first screened for hypothyroid and hypogonadal secretion anomalies and each subject chose participation in one of four categories: 1) Food allergen elimination with aerobic-surge exercise, 2) Food allergen elimination alone, 3) Aerobic-surge exercise alone, or 4) Control (only nutritional counseling). All patients received nutritional counseling, which taught patients to avoid food with preservatives like high fructose corn syrup, etc. [8].

The first two groups were treated with food allergen identification and elimination (ALCAT test of 250 foods, Cell Science Systems, Deerfield Beach, FL, USA). After 12 months, the greatest changes

were seen in subjects treated with food allergy elimination (alone or in combination with the Aerobic-surge exercise) [8]. Other studies have shown significant changes from replacing processed foods with more natural food choices [10,14-16].

Protocols for diabetes and obesity reductions have included mixed protocols of diet, exercise, food allergen elimination, natural food selections, and pharmaceutical treatments [8-20].

Differential Diagnosis

Included Idiopathic Obesity, Hypothyroid, Hypogonadal secretions, and Type II Diabetes mellitus (DM2). Review of patient's medical history and recent blood tests showed appropriate levels of TSH, T3, T4 and testosterone (free and total). However, her initial HbA1c levels were elevated (8.2 mmol/mol). The patient was being treated for DM2 with metformin (500 mg PO, bid) however, her glucose levels and HbA1c had not been measured in over one year. In this case, idiopathic obesity with Type II diabetes mellitus was the diagnosis.

Treatments

After informed consent was obtained the patient's body composition was tested using BodPod chamber and bioelectrical impedance testing equipment. Her BMI was then calculated before her blood pressure and waist circumference were measured and a recent HbA1c was recorded. Four vials of blood were drawn for the ALCAT Leukocyte reaction testing of 250 food items (Cell Science Systems, Deerfield Beach, FL, USA). Twenty-nine foods showed a significant reaction which were eliminated from the patient's diet.

Protocols

In addition to food allergen elimination, the patient was also taught how to use Portions-size control eating (eat less than a 2-cup serving, five times per day) and she received nutrition counseling on how to exchange processed food products for natural foods and consume an optimal diet for reduction of HbA1c and obesity (i.e. eliminate foods containing high fructose corn syrup, etc.) [8,14-16]. The patient was also taught how to perform the brief, Aerobic-surge exercise (five times/day). The aerobic-surge protocol taught her to exercise vigorously enough to reach 112 beats/minute (75% Max Heart Rate = Aerobic Threshold) [8,19].

Discussion

This case report agrees with literature which states that the etiology and treatments for the obesity disease are multifactorial and instead of counting calories one should consider consuming natural foods which require more energy to digest and metabolize [8-10,13]. Brief aerobic exercise training has been shown effective in obesity reduction in randomized, controlled trials and in cohort comparison studies [8,19].

In a quantitative model (weight loss trials for DM2), weight loss was consistently followed by HbA1c reduction. In a meta-analysis of 58 studies (N=17,204 subjects), that study showed a 0.1 percentage points reduction in HbA1c for every 1Kg of weight loss achieved [17].

The purpose of this case report was to demonstrate how food allergen elimination and brief, aerobic-surge exercises were beneficial in reducing HbA1c and obesity in a geriatric patient. The patient maintained the changes for over two years and reports that she has never felt better about her physique.

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