A CLINICAL OBSERVATION ON THE EFFECT OF COLLAGEN HYDROLYSATE (Calorad*) ON OVERWEIGHT AND OBESE INDIVIDUALS

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INTRODUCTION

Many professionals engaged in the field of health, be they doctors, nutritionists or fitness experts, have expressed their collective alarm on the seemingly hopeless fight in the "battle of the bulge." Data gathered in the United States, Europe and some part of the Asia have shown that people are becoming bigger and heavier. The clinically tested prescription of proper diet with exercise has apparently not brought its expected effect in the general population. Foremost among the reasons given were the inability of most individuals to comply with the prescribed diet and the apparent lack of time for formal exercise. Man has since been in constant search for that weight loss panacea which would encourage people to stick to a program with a few lifestyle limitations.

Collagen hydrolysate or Calorad is a dietary supplement that traces its origin in Canada and has staked its claim in the weight loss arena. The popularity of the product can be due to the fact that no strict changes in one's diet or lifestyle is required in the program. The formula was created fifteen years ago by Michael Grise and was initially intended for use in the poultry industry. This was later reformulated for human consumption and has been available in North America for more than a decade. The testimonials of thousands of users have fueled its continued patronage in the health food industry.

OBJECTIVE

This clinical observation study was conducted to objectively record various parameters on the effect of collagen hydrolysate or Calorad among overweight and obese individuals.

Methods and Materials

This is a descriptive study done on 50 overweight and obese individuals with a 90-day observation period. The subjects were provided with one bottle of Calorad every month for 3 months. They were then asked to ingest 15 ml. of the product at night after at least a 3-hour fast and just prior to sleeping. No dietary or exercise prescriptions were given, but the subjects were asked to "eat sensibly." Baseline and serial measurements of the height, weight, waist circumference, body mass index and body fat percentage were done. The presence of any medical disorders were noted, i.e., hypertension, diabetes, as well as any effects noted by the subjects while taking the product.
The following subjects were included in the study:

1. Male or female
2. 18 years old and above
3. Non-pregnant and non-lactating women
4. No history of thyroid disorder
5. Classified as overweight or obese based on:
   • body mass index and/or
   • body fat percentage utilizing a "body fat analyzer"
6. No medical diseases that would require the subject to limit his daily protein intake
7. Gave their informed consent

Calorad® 2000

A Bureau of Food and Drugs-approved dietary supplement. Listed composition: purified water, hydrolyzed protein, aloe vera, glycerin, potassium sorbate.

Body Fat Analyzer

The Omron Body Fat Analyzer is a portable machine that measures body fat percentages based on the bioelectrical impedance principle. The ratio of fat tissues to other tissues is detected using its negative electric conductivity.

Body Mass Index Classification: kg/m² (IOTF Asia Pacific Guidelines)

   Underweight <18.5
Normal Range  
>= 18.5 - 22.9

Overweight  
>= 23

At Risk  
23 - 24.9

Obese  
> 25

Weight Circumference (IOTF Asia Pacific Guidelines)

Male  
>= 90 cm or 35 in.

Female  
>= 80 cm or 31 in.

RESULTS (see separate sheets)

DISCUSSION

The apparent mode of action of the product can be summed up in the company phrase of "losing weight while you sleep." This company slogan can be traced to the interplay of events that occur while one is asleep. It has been established that sleep plays a major part of the life of humans, not only for the resting period it provides, but it also allows the body to heal or rejuvenate itself. The delta wave mode part of the non-rapid eye movement sleep is also known as the phase of deep sleep. It is in this part of the sleep process that the growth hormone is apparently secreted.

The growth hormone is placed at the middle of the spectrum of activity upon the ingestion of the dietary supplement. The support in muscle mass mentioned in the product literature is anchored on the anabolic activity of this hormone. As a protein-based food, the product is thought of as not only a stimulant in the secretion of growth hormone, but also as a participant in the build-up of tissues. The idea of a more efficient utilization of food as fuel for energy by the muscle tissues leading to fat loss is also advanced as the final pathway in the whole process.

The product literature also mentions a company statistic of an 86% response among the people who have ingested the product. Half of who have noted the response as early as the first month. A quarter would see the benefit during the next 60 days and another quarter after the third month. The 14% who did not get a response are thought of
as having an innate metabolic disorder, specifically one of hypothyroid in nature.

Out of the initial 50 subjects recruited, only 36 were able to finish the observation period. The most common reason cited for withdrawal was the difficult of keeping up with the prescribed process of intake in the evening. Two people complained of "hyperacidity" and one of menstrual disorder. The baseline averages were as follows: body weight of 70.85 kg., body fat percentage of 36.7%, BMI of 32.5, waist circumference of 92.05 cm. and hip circumference of 105.8 cm. This observation noted that the individuals experienced a collective effect of a decrease in weight by an average of 2.6 kg. and 0.4% difference in fat percentage from baseline after being put on the product for 30 days. Consequently, this modest decrease in weight translated to an impressive figure, as far as the body mass index is concerned, from an initial average BMI of 32.5 to 28.95. The other measurements revealed the following: waist 87.65 cm., hips 101.55 cm. About 16 subjects or 36% did not experience any difference on their first follow-up. After the second month, it was noted that the collective decrease in weight was 2.37 kg. and the fat percentage was 1.4% from baseline. The changes ranged from a low of a few grams to a high of 3 kg. in some subjects. The range of changes is more pronounced when the measurements were taken into account. The subjects lost an average of 5.34 cm. at the waist and 4.25 cm. at the hips. The final measurements revealed the following results: an average weight of 66.5 kg., an average fat percentage of 34.3%, average waist circumference of 84.19 cm, and an average hip circumference of 96.3 cm. Overall, it was noted that the subjects lost an average of 4.35 kg. in weight, 2.4% in percent fat, 7.86 cm. in waist circumference, and 9.5 cm. in hip circumference. The average BMI of the subjects decreased by an average of 4.9 to a value of 27.6.

CONCLUSIONS

Of the initial 50 subjects, 38 had a BMI of >25 (obese), 5 had a BMI of between 23 to 24.9 (overweight) and the rest had BMI of less than 23, but with fat percentages of more than 30%. At the end of the observations period, only 23 of the remaining 36 subjects had a BMI of more than 25 and the rest of the previously considered obese were now classified as being overweight. Overall, only 4 subjects did not experience any change on the parameters measured during the observation period. However, it should be emphasized that this observational study was not done with control subjects.

Although we saw improvements in the parameters measured, a 3-month weight control program will lose its
gained benefits if the subjects in the long run will revert back to their previous obese or overweight status. It is well recognized that obesity is a chronic disease that would need a long-term solution of constant monitoring of energy intake and output. Short-term gains should and must eventually be translated to long-term overall health benefit. Conditions associated with weight problems, including hypertension and diabetes, are not acute conditions that develop in a few days or weeks’ time. These diseases develop over time of neglected health and physical conditioning. Still, people with preexisting diseases can reap advantages of better blood sugar and blood pressure controls with good weight control.

In summary, 50 subjects were given a protein-based supplement for 90 days. Their weight, body fat percentages and waist/hip circumferences were monitored. No prescription for diet was provided. Only 36 subjects were able to finish the observation period. An apparent loss in weight with decreases in body fat percentages and waist/hip circumferences were observed.

It is recommended that a larger and well-controlled study be done and the exact mechanism of action of the product be researched further. This observational study was done under the auspices of Essentially Yours Industries Philippines, Inc.

Baseline and Serial Measurements

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<th>Baseline 30 Days</th>
<th>60 Days</th>
<th>90 Days</th>
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<tr>
<td>Body Weight (kg)</td>
<td>70.85</td>
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<tr>
<td>BMI (kg/m2)</td>
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<td>% Fat</td>
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<td>Waist Circumf. (cm)</td>
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<td>Hip Circumf. (cm)</td>
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