HCG and Very Low Calorie Diet Problems

Much like many scams, the hCG injection and very low calorie diet (VLCD) has cycled back into mainstream media and is being advertised as the cure for obesity. Advertisements suggest as much as a pound a day can be lost using this “medical” treatment, drawing the attention of many individuals wishing to lose weight. The injections are comprised of low-dose human chorionic gonadotrophin (hCG) and when combined with a severe diet, functions as a popular treatment for obesity, despite a lack of evidence of its effectiveness. hCG is secreted by the placenta during early pregnancy to maintain corpus luteum function and stimulate placental progesterone production. It is found in the urine and blood serum of pregnant women and is commonly used as an indicator of pregnancy.

In the seventies, researchers investigated the use of hCG combined with severe diet restrictions in the treatment of obesity. In a follow-up study to the Asher-Harper investigation (1973), which suggested that the combination of a 500 kcal diet and hCG had a statistically significant benefit over the diet and placebo combination; Stein et al (1976) created a duplication of the methodology using 51 women in a 32-day prospective, randomized, double-blind comparison of hCG versus placebo. Each subject was given the same diet (the one prescribed in the Asher-Harper study). Researchers performed laboratory analysis at the time of the start and at the end of the study. 80% of the subjects completed the study receiving 28 injections. Researchers found no statistically significant difference in the means of the two groups in number of injections received, weight loss, percent of weight loss, hip and waist circumference, weight loss per injections, or in hunger ratings. Investigators concluded that hCG does not appear to enhance the effectiveness of a very low calorie diet for weight reduction.

In a similar article published in the Western Journal of Medicine (1977), Greenway also used a double-blind randomized trial using injections of hCG or placebo along with a calorie restricted diet. Forty obese women, all with body mass index greater than 30 kg/m² were placed on the same 500 kcal diet and each received daily intramuscular injections of saline or hCG, 6 days a week for a period of 6 weeks. According to Greenway, weight loss was identical between the two groups, and there was no evidence for differential effects on hunger, mood, or localized body measurements. The author concluded placebo injections appeared to be as effective as hCG in the treatment of obesity.

Shetty and Kalkhoff published an article in the Archives of Internal Medicine (1977) that further added to the evidence that hCG was ineffective at increasing weight loss. The investigation analyzed six hospitalized obese women over a thirty day period. Each was placed on 500 calorie a day diet and given an injection of hCG intramuscularly each day for 30 consecutive days. A control group of five similar obese women received injections of saline only and consumed
identical diets for the same period. Authors found that the mean weight loss in the hCG-treated group was nearly identical to that achieved by the women who were given the placebo. Additional regional assessments of fat were also consistent between groups. Once again the authors concluded that “hCG had no effect on the chemical and hormonal parameters measured and offers no advantage over calorie restriction in promoting weight loss.”

In 1995, Lijesen et al conducted a meta-analysis of research that investigated the use of hCG and diet restriction on weight loss, fat loss, fat redistribution and hunger reduction. They found eight controlled and 16 uncontrolled trials in a review of databases. The studies were then scored and ranked based on quality of methodology. They found that 12 trials met the minimum criteria for research validity using their 100 point scoring system. Of the twelve, only one concluded that hCG may be an effective adjunct to weight loss (Asper-Harper) whereas all the others concluded the opposite. In a concluding statement published in the British Journal of Clinical Pharmacology the researchers stated “We conclude that there is no scientific evidence that HCG is effective in the treatment of obesity; it does not bring about weight-loss of fat-redistribution, nor does it reduce hunger or induce a feeling of well-being.”

The recent resurgence of the hCG injections also now come in drop form that can be placed under the tongue. These programs are actually worse than the early practices as now people can get the product online without any medical supervision or assurance of type or purity. Simply typing in hCG and weight loss in one’s browser will call up numerous advertisements offering a miracle hope to the ignorant consumer. The current popularity was likely sparked by a recent book written by an infomercial marketer (and convicted criminal). So now not only is it ineffective but likely even more dangerous. Toffle, in an article published in the West Virginia Journal of Medicine (2011), titled “There they go again” – hCG and weight loss” suggests that serious negative outcome can come from non-pharmaceutical concoctions and cites products from foreign countries in particular have the potential for contamination. Toffle referenced Fineberg and Hiatt in the article with a seemingly perfect summation:

"What is unacceptable is to persist in demonstrably ineffective practices either because we fail to collect systematic information about the effects of our actions or because we establish and respond to inappropriate incentives. Systematic information has been obtained and has shown lack of evidence for the benefit of this therapy. The alternative explanation for the persistence and promotion of this treatment is unacceptable.”

Since 1975, the FDA has said that hCG is not a weight loss drug and the FTC has gone after the infomercial marketers suggesting its efficacy. Based on this information and numerous other evaluations, consumers should avoid hCG injections for the purpose of weight loss. Personal trainers should become familiar with the misleading
products and educate clients to avoid those that have not demonstrated proper safety and efficacy in repeated clinical trials. Likewise Personal Trainers should never recommend a VLCD as it is virtually impossible to meet a human’s daily nutritional needs for energy nutrients with less than 500 calories per day and the diet will most likely result in vitamin and mineral deficiencies. It is important to recognize many internet sites will look reputable but publish misleading and incorrect information. Self-appointed experts, particularly those who suggest medical practitioners “don’t know anything” and those sites that use articles to sell products should be avoided. It is important to let people know that the FDA does not regulate supplements and therefore will not ensure any hCG product is safe, free of contaminants, or in the correct concentration. Websites selling hCG have no regulations related to their product sales.