

Anamarie Orgera

July 23, 2011

Chem. 349

HCG Diet

The HCG diet has been a very popular topic within recent years; it has been featured on many popular television shows such as NBC, Oprah, Dr. Oz, CBS and Fox News and has been discussed in weight loss books because of its seemingly stunning results. But despite the diet's rampant popularity data about its effects remains scarce. Until this data is gathered, people need to consider the possible harm that can result from following the HCG diet.

HCG (Human Chorionic Gonadotropin) is a hormone produced during pregnancy. Its function is to make sure the fetus receives proper nutrients, despite the mother's intake. This is made possible by the hormone dipping into the body's fat stores and using that for nutrients. HCG is what keeps a fetus healthy even after months of vomiting from "morning sickness". The hormone was discovered in the 1950's by Dr. ATW Simeons, and has recently become a growing trend due to its relevance in weight loss and the prevalence of weight gain and obesity in this nation.

The crystal structure of HCG was discovered by Lapthorn in 1994. It is a glycoprotein, which means it plays a role in cell to cell communication, and has alpha and beta subunits. These subunits are linked together by hydrogen and disulfide bonds. The alpha subunit is very

similar to other glycoproteins but the beta subunit is what makes it distinct from the rest. Normally, the half life of HCG is very short, leading to continually low amounts in the body; except however, during pregnancy. Then, HCG is secreted from the placenta as opposed to the pituitary gland and has a much longer half life, allowing the levels to double every 2 days. As these levels continue to rise, more and more stored fat is being used as energy for the fetus.

The HCG diet claim is that when HCG droplets are taken 3 times a day with a calorie-restricted diet of about 500kcal a day the body is subsisting more on stored fat than what is being eaten. This leads to 3500-4000 calories of stored fat burned daily, which amounts to a loss of 1-2 pounds per day. HCG supporters also claim that consumers are comfortably satisfied with the intake of only 500 calories a day alongside the HCG droplets. Also, headaches, insomnia, lethargy and fatigue are not a problem during this diet.

The claims of the HCG diet have yet to be proven scientifically by specialists. Although there are hundreds of thousands of testimonies that the HCG diet truly works, in the lab, HCG has yet to provide any more results in weight loss than placebos. Many doctors and dietitians ignore the hype of the HCG diet and continue to support a healthy routine of 1200-1500 calories minimum, daily exercise and well balanced meals. Their argument is that rapid weight loss is undeniable when the consumer is so close to starvation. Kathleen Zelman, MPH, RD, LD argues that "it is virtually impossible to meet your nutritional needs for carbohydrates, proteins, fats and fiber with less than 500 calories a day and the diet will most likely result in vitamin and mineral deficiencies". According to the FDA Recommended Daily Values, a healthy individual should take in 300 grams of carbohydrates a day. 1 gram of carbohydrate is equal to

4 calories and therefore 300 grams of carbohydrates would amount to 1200 calories a day, solely in carbohydrates. On the HCG diet, consumers are not receiving anywhere close to the recommended daily value of all nutrients and will absolutely enter a deficiency state after dieting over an extended period of time.

It is hard as a student studying to become a dietitian to believe such a miracle diet could be harmless. It is nearly impossible to attain proper nutrients for the body with 500 calories a day while still maintaining muscle mass and simultaneously burning fat at such increased speeds. As humans, we survive on what I believe is the proper balance between food and energy storage, but this diet is attempting to alter this balance. Supporters are using the age of this discovery as their main argument against safety concerns; however I believe that we have yet to see its long term side effects because it has only recently resurfaced so dominantly. Any extreme abuse of natural hormones (such as this diet) should be a red flag to experts and motivate towards more testing. The administration of the drug is not monitored by the FDA and that should be taken into serious consideration before consuming. There are also no recommended time limits to this diet given to the public. I am sure the few doctors that administer this diet give proper doses to patients, but what about those who purchase online? What about HCG diet kits sold online for \$79.00 as opposed to a doctor's prescription that costs closer to \$550.00? Why is there such a large price gap? Does one work better than another?

There are still so many unanswered questions pertaining to the HCG diet that doctors and dietitians have to take the health risk into account. In my opinion, the HCG diet is still all too new to the medical world to be handled as lightly as it is currently. There are no proven

results, simply testimonies. Everyone's body takes to hormones and drugs so differently; I find it dangerous to be basing facts of a product off of opinions of various users. More lab work should be performed until long term side effects and results can be confirmed before it is distributed publicly.

Works Cited

- "The HCG Diet: What Is HCG, about Hcg." *HCG Diet / HCG Drops / HCG Weight Loss / HCG Diet Weight Loss*. Web. 23 July 2011. <<http://www.hcgdiet.com/abouthcg.html>>.
- "How to Understand and Use the Nutrition Facts Label." *U S Food and Drug Administration Home Page*. Web. 26 July 2011. <<http://www.fda.gov/food/labelingnutrition/consumerinformation/ucm078889.htm#dvs>>.
- Pandey, Deeksha. "ISPUB - Human Chorionic Gonadotropin: "The Magic Molecule"" *ISPUB - Internet Scientific Publications*. Web. 23 July 2011. <http://www.ispub.com/journal/the_internet_journal_of_endocrinology/volume_5_number_1_43/article/human_chorionic_gonadotropin_the_magic_molecule.html>.
- "Recommended Daily Intake." *Netrition.com - The Internet's Premier Nutrition Superstore!* Web. 26 July 2011. <http://www.netrition.com/rdi_page.html>.
- Zelman, Kathlen M. "The Truth About HCG for Weight Loss." *WebMD - Better Information. Better Health*. Web. 23 July 2011. <<http://www.webmd.com/diet/features/truth-about-hcg-for-weight-loss>>.