

ABSTRACT

Obesity is a major public health problem affecting 35.7% of adults in the United States alone. As many people are not successful with current lifestyle, medication or surgical approaches to treat obesity, alternative treatments are urgently needed to address this epidemic. For individuals who are unable to succeed with medical weight loss, yet do not want to entail the risk of surgical weight loss, an intermediate approach using a ketogenic formula delivered via a feeding tube, may be desirable.

OBJECTIVE

The objective of this study was to assess the effect of a ketogenic feeding tube diet, for the treatment of obesity.

METHOD

This is a retrospective chart review from one physician's practice (n=167). Patients were screened over the telephone to have a BMI > 27 kg/m², and were excluded if they had never tried other weight loss programs, or had an unstable medical condition. After a history and physical exam and review of laboratory tests, a 6 French pediatric feeding tube was inserted, and the patient was instructed on how to mix and administer the ketogenic formula.

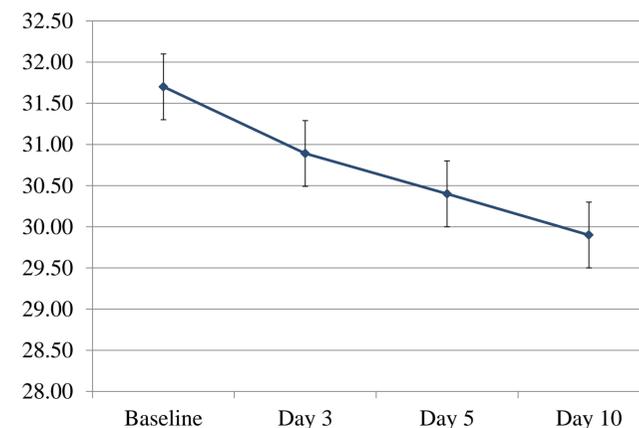


The formula delivered from 600 to 800 kcal/day over a 24-hour period. Body composition was measured by DEXA (n=87). Follow-up visits to measure symptoms and vital signs, occurred on day 3, days 5,7 and day 10.

RESULTS

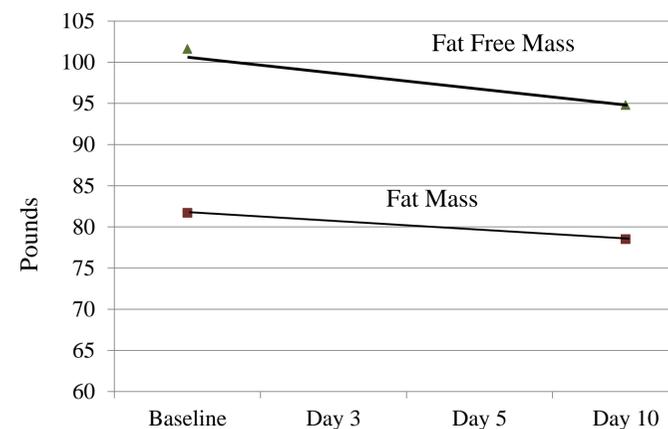
Over a 22 month period, 167 patients were evaluated by the clinic physician. 155 received 1 treatment, 25 received 2 treatments, and 7 received more than 2 treatments. 8 patients (4.8%) did not tolerate the treatment. The mean age was 45.1 years (SD=10.5), mean baseline weight was 87.4 KG (SD=16.9), mean BMI was 31.8 kg/m² (SD=4.6), 84% were female, 63% were Non-Hispanic White, 26% Hispanic, 11% African-American. The median duration of follow-ups was 10 days (range 1 to 13 days). From baseline to follow-up there were significant changes in body weight (p<0.0001), percent body weight (p<0.0001), BMI (-1.8 kg/m², SD=0.67, P<0.0001), and fat mass (-1.5 kg, SD=1.3, p<0.0001). The nasogastric tube was well tolerated based on symptoms and vital signs.

Change in Body Mass index



Values shown are mean and std error. n=152

Change in Body Composition



Body composition measured by DEXA scan. n=143 at baseline, n=105 at Day10

CONCLUSIONS

In this group of motivated individuals with obesity, a ketogenic feeding tube diet led to improvements in total body weight and fat mass over a 10 day period.

We conclude that a ketogenic feeding tube diet may play a role in the treatment of obesity to initiate weight loss in lifestyle or medication programs, to break through plateaus, or to generate weight loss before weight loss surgery.



REFERENCES

Cappello G., Franceschelli A., Cappello A. and De Luca P. (2012). "Ketogenic enteral nutrition as a treatment for obesity: short term and long term results from 19,000 patients". *Nutrition & Metabolism* 9:96.