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Research Article

Weight Loss Helps to Discontinue the Use of Anti-Hypertensive Drugs among Obese and Severely Obese Patients in an Iranian Population

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Abstract

Introduction: An association between obesity and hypertension has been amply documented. Data from cross-sectional studies indicate a direct linear Correlation between body weight (or body mass index) and blood pressure. Purpose of study was Weight Loss helps to discontinue the use of anti-hypertensive drugs among obese and severely obese patients in an Iranian population.

Methods: Subjects were chosen from among the patients referring to the Obesity Clinic at Arian Pooya Obesity Research Institute, Mashhad, Iran. 154 patients were first selected and recruited for the study.

Results: In results, 90% of obese patients as well as 65% of severely obese patients did not need to use anti-hypertensive drugs after the sixth week as their blood pressure reached 125/80 mmHg without using any anti-hypertensive drugs.

Conclusion: Weight loss not only helped the patients decrease their blood pressure but also prevented any possible side effects emerging as a result of use of anti-hypertensive drugs.

Keywords: *Weight Loss; Anti-Hypertensive Drugs; Obese*

Introduction

An association between obesity and hypertension has been amply documented. Data from cross-sectional studies indicate a direct linear Correlation between body weight (or body mass index) and blood pressure [1-5].

Centrally located body fat is a more important determinant of blood pressure elevation than peripherally located body women and men. In longitudinal studies, there is a direct correlation between change in weight and change in blood pressure over time, even when dietary salt intake is held constant [5]. The proportion of the prevalence of hypertension attributable to obesity is an important public health question. It has been estimated that 60% of hypertensive are more than20%overweight.The high prevalence of overweight combined with the corresponding increase in risk of developing high blood pressure has led to estimates that 20 to 30% of hypertension can be attributed to this exposure [6].

A reduction of blood pressure by weight loss has been clearly documented in short-term trials in both hypertensive and normotensive individuals. Based on pooling results of controlled dietary intervention trials, it has been estimated that a mean change in body weight of 9.2 kg is associated with a 6.3 mm Hg change in systolic blood pressure and 3.1 mm Hg change in diastolic blood pressure [5].

Obesity-related hypertension has been variously ascribed to hypervolemia and an increased cardiac output without an appropriate reduction of peripheral resistance, to increased sympathetic nervous system activity, and to insulin resistance [7,8].

A weigh loss of as little as 10 to 15 pounds often can help treat hypertension. This, then, can decrease the need for hypertension drugs, which, by themselves may cause headache, impotence, reduce exercise tolerance, persistent cough as well as other side effects.

The sleep apnea linked to hypertension also typically improves with weight loss [9].

Purpose of the Study

Purpose of study was weight loss helps to discontinue the use of anti-hypertensive drugs among obese and severely obese patients in an Iranian population.

Materials and Methods

Research Method and Procedures

Subjects were chosen from among the patients referring to the Obesity Clinic at Arian Pooya Obesity Research Institute, Mashhad, Iran. 154 patients were first selected and recruited for the study, of which 54 patients were excluded since they either

1. Did not refer to the clinic regularly every week,
2. Or forgot take Multivitamin mineral (Capsule) as prescribed and advised by the doctor or two days,
3. Or did not follow the prescribed diet more than two times as more than 2000 calories per week
4. Or some urgently needed an operation,
5. Or some others became pregnant during the treatment period.

All the above mentioned subjects had a history of hypertension of 140/90 mmHg and above, and each took either an Atenolol 100 mg or Captopril 100 mgs per a day, the most commonly used medicines to control hypertension in Iran.

All the patients (100 patients left for the study) were classified into two groups of Obese (39/9 ≤ BMI ≥ 32) and Severely Obese patients (BMI ≥ 40).

The patients were asked to refer to the clinic on a weekly schedule and following items were carefully measured and recorded:

a) WHR
b) Triceps skin folds
c) Weight
d) Blood pressure

Patients were asked to lie and rest for 15 minutes. Their blood pressures were then measured using a sphygmomanometer. Regarding the amount of the decrease of the hypertension for each patient, the medicine for his/her hypertension was tapered gradually. All the patients were prescribed very low calorie diets (VLCD) based on the ADA criteria.

American dietetic association criteria for use of very low calorie diets

Although very low calorie diets (VLCD) promote rapid weight reduction and may benefit certain individuals, such diets have health team with monitoring by a physician and nutrition counseling by a registered dietitian (American dietetic Association, 1990). The Vices is only one part of weight reduction program and, to be most effective, should be combined with nutrition education, psychological counseling, exercise, and behavior therapy. The following criteria should be used in selecting candidates for a VLCD program:

1. At least 30% of overweight with a minimum BMI of 32.
2. Free form contraindicated medical conditions: Pregnancy or lactation, active cancer, hepatic disease, renal failure, active cardiac dysfunction, or severe psychological disturbances.
3. Committed to establishing new eating and life-style behaviors that will assist the maintenance of weight loss.
4. Committed to taking the time to complete both the treatment and the maintenance components of a program.

The VLCD should be preceded by 2 to 4 weeks on a well-balanced 1200-Kcal diet that allows time for the body to the caloric deprivation and promotes a gradual diuresis.

The VLCD should be limited to 12 to 16 weeks to reduce the risk of adverse complications related to body protein losses, in particular cardiac problems. Dieters should be closely monitored.

The VLCD should be followed by a gradual re-feeding period of 2 to 4 weeks during which time food, especially simple sugars, are reintroduced slowly to prevent a rapid fluid weight gain.

Dieters should continue a follow – up or maintenance program for at last 12 months, or until they can demonstrate voluntary restriction of eating, particularly during times of stress, a normal eating pattern and a sense of well-being.

Some dieters will require on-going support even after the maintenance program has ended, and all dieters will need to continue with regular aerobic exercise for long-term weight reduction success.

The diets consisted of 750 kilocalories pre a day. They were also prescribed to take a capsule of Multivitamin mineral every day. The patients were all provided with a direct constant (24/7) access to their physician as well as four skilled nurses through phone, internet, fax, etc.

Low Calorie Diets were prescribed to all patients for a period of two weeks before the beginning of the treatment with VLCDs in order to match their metabolic statuses.

Results

Upon the 6th week of treatment with the prescription of Very Low Calorie Diets, a dramatic decline of blood pressure was observed among the patients.

In conclusion, 90% of obese patients as well as 65% of severely obese patients did not need to use anti-hypertensive drugs after the sixth week as their blood pressure reached 125/80 mmHg without using any anti-hypertensive drugs.

The study continued for another six weeks. Upon the twelveth week of treatment, 98% of obese patients and 88% of severely obese patients (average: 95% of the whole population) needed no use of anti-hypertensive drugs. Comparing the level of weight loss among both groups of obese and severely obese, we observed 11.9 ± 2.6 kg as the average of weight loss in the first six weeks of treatment while, the average weight loss for severely obese patients was 13.1 ± 2.3 kg.

Upon the second six weeks of treatment, level of weight loss was 8.5 ± 2.5 kg among the obese subjects, while it was 10.3 ± 2.37 kg among severely obese patients.

Discussion

In this study we came to observe that patients got rid of using antihypertensive drugs in a short period of time. Weight loss not only helped the patients decrease their blood pressure but also prevented any possible side effects emerging as a result of use of anti-hypertensive drugs. In the first part of the program, the results suggested a considerable amount of improvements for the severely obese patients within the first six weeks of treatment. Although they were fewer than the other group which consisted of obese patients, they were more challenging with hypertensive drugs, having a glance at their treatment histories. As for the treatment of severely obese patients, we came to realize that the treatment period should be extended since a close association exists between the level of obesity and the time of discontinuing the drug. It is highly recommended to instruct the patients with practical methods of stress management in order to make

the procedure faster as stress reduction plays a vital role in the treatment. We are now thinking of the next study based on the question that to what extent stress management can help the patients with the treatment of hypertension while they lose weight.

Conclusion

It is highly recommended to instruct the patients with practical methods of stress management in order to make the procedure faster as stress reduction plays a vital role in the treatment. We are now thinking of the next study based on the question that to what extent stress management can help the patients with the treatment of hypertension while they lose weight.

Bibliography

1. Cannell W., *et al*. "The Relation of Adiposity to Blood Pressure and Development of Hypertension: The Framingham Study". *Annals of Internal Medicine* 67.1 (1967): 48-59.

2. Chiang BN., *et al*. "Overweight and hypertension-a review". Circulation 38.3 (1969): 403-421.

3. Epstein FH. "Prevalence of chronic diseases and distribution of selected physiologic variables in a total community, tecumseh, michigan". *American Journal of Epidemiology* 81 (1965): 307-322.

4. "Health Implications of Obesity: National Institutes of Health Consensus Development Conference Statement". *Annals of Internal Medicine* 103 (1985): 1073-1077.

5. McMahon SW., *et al*. "Obesity and hypertension: epidemiological and clinical issues". *European Heart Journal* 8 (1987): 57-70.

6. "National High Blood Pressure Education Program Working Group report on primary prevention of hypertension". *Archives of Internal Medicine* 153.2 (1993): 186-208.

7. Dustan HP. "Obesity and hypertension". *Diabetes Care* 14.6 (1991): 488-504.

8. Krieger DR and Landsberg L. "Obesity and Hypertension". In: Laragh JH, Brenner BM, eds, Hypertension: pathophsiology, diagnosis, and management. 2nd edition. New York: Raven Press (1995): 2367-2388.

9. Gordon M Wardlaw. Contemporary Nutrition (2003): 35.

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