

Dyslipidemia and Nutrition

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ABSTRACT

Dyslipidemia refers to elevated serum total cholesterol, low-density lipoprotein cholesterol (LDL-C) and triglyceride concentrations, and low concentration of high-density lipoprotein cholesterol (HDL-C). Diet therapy is an important part of guidelines that are based on the treatment of dyslipidemia. Dietary and drug treatments have considerable variability in individual LDL-C response. This supports a patient-specific approach.

Keywords: Dyslipidemia, LDL cholesterol; diet; triglyceride, HDL cholesterol

INTRODUCTION

Dyslipidemia; is a concept that defines the numerical excess or incompleteness and functional impairment of lipoproteins. It is classified in 2 groups depending on the causes of primer and secondary. Atherosclerotic cardiovascular diseases are the leading cause of premature deaths in all countries. Among the many preventable risk factors that increase the risk of atherosclerotic heart disease, the most important is the dyslipidemia. Because dyslipidemia is the main factor in the pathogenesis of atherosclerosis, it is very uncommon and asymptomatic. Dyslipidemia is an important step in nutritional therapy (1,2).

DISCUSSION

Primer dyslipidemia are the result of genetic disorders in lipoprotein metabolism, while secondary dyslipidemia are lipid profile disorders caused by other underlying factors. In primer (familial) dyslipidemia, antilipidemic treatment plan (lifestyle changes, medical treatments, prevention of risk factors) lasts for life. It is well known that healthy eating and weight control prevent the development of atherosclerotic heart disease (3). The primary approach to primer preservation is to administer medical nutrition therapy for at least 3 months, along with changes in therapeutic lifestyle. This period can be extended up to 6 months by individual evaluation. Pharmacotherapy and nutritional therapy should be started simultaneously in high-risk individuals. Medical

nutrition therapy should be maintained throughout life. There should be a diet rich in mono and polyunsaturated fatty acids, with low calorie, vegetable, fruit and whole grain content, with balanced macromineral ratios. The oil rate should be less than 30% of the total energy. By consuming olive oil, fruit, nuts, vegetables and cereals in a pure Mediterranean diet on a regular basis, moderate consumption of fish and poultry, and less consumption of dairy products, red meat, processed meat and very little dessert (4).

In nutritional therapy, daily calorie intake should be restricted to reach the ideal body weight. Usually a daily restriction of 300-500kcal provides effective weight loss. Less than 30% of the daily energy should be taken from the oil, saturated fat content should be less than 10%. If sufficient results are not obtained, the saturated fat ratio can be reduced to below 7%. The response to nutritional therapy can be affected by many factors such as dietary habits, initial nutritional habits, gender, genetic and LDL particle size (5). Carbohydrate intake should be adjusted to meet 45-55% of total energy intake. High carbohydrate diet leads to an increase in TG levels. Consumption of vegetables, legumes, fruits, nuts and whole grains should be particularly encouraged, along with all other nutrients with low glycemic index and / or rich in fiber. With sugar intake (in addition to those found in natural foods such as fruit and dairy products), more than 10% of the total energy should not be met. Carbohydrate-

weighted diet reduces insulin sensitivity and elevates TG levels. In order to reduce this effect, it is necessary to limit carbohydrate uptake to 45-55% and to prefer carbohydrate rich carbohydrate intake with low glycemic index instead of fast-absorbed refined carbohydrates. High fiber foods; dietary fibers (particularly soluble) present in pulses, fruits, vegetables and whole grains (oats, barley, bran) lead to a 5-19% decrease in Total-K and 8-24% decrease in LDL-C48. The total amount of fiber in the diet above 30 g, including at least 7-13 g of soluble fiber per day, is an effective diet for plasma lipid control. Carbohydrate intake has no significant effect on LDL-C levels. Furchette intake in excess amounts also increase TG levels. For this reason, less than 10% of the daily energy should be recommended from fructose (4).

Dietary fat rates are of great importance for a healthy lipid profile. It is the reduction of saturated fat intake, which most affects LDL-C levels. Each 1% reduction in energy from saturated fat may result in a reduction in LDL-C levels of 0.8-1.6mg / dL60. Unsaturated oils should be replaced with polyunsaturated fatty acids. Each 1% change causes a 2mg / dL change in LDL-C levels. Frequently used trans fatty acids, like saturated fats, have a negative effect on LDL-C levels. While trans fats reduce HDL-C levels, unsaturated fats increase HDL-C levels. Monounsaturated fatty acids (olive oil, canola oil, nuts, seeds) decrease TG levels by increasing insulin sensitivity61. An approach that further reduces TG levels is to replace saturated fat with polyunsaturated fatty acids such as omega-6 and / or omega-3 it is to take. However, the most favorable effect on TG levels is achieved by omega-3 uptake. Omega-3 (eicosapentanoic acid (EPA) and docosahexanoic acid (DHA) content is high, it is recommended that fish be consumed twice a week in the general population, LDL- It has also been shown to cause a slight increase in K (6).

Studies show that dietary cholesterol has minimal effect on serum total-K levels. However, there is probably no significant contribution of this effect to the development of atherosclerotic heart disease (4,7). However, other current guidelines continue to suggest that cholesterol intake should be below 200 or 300 mg per day in medical nutritional therapy (4, 8, 9). Functional Foods Innovative nutrition strategies have been developed to improve dyslipidemia. These functional foods, called nutritional ingredients, can be used with lipid-

lowering drugs. Vegetable sterols are naturally found in vegetable oils, in lower quantities, in vegetables, fresh fruits, chestnuts, cereals and legumes. Phytosterols change total-K levels by entering the cholesterol level for absorption from the intestines. It is known that an increase in the stanol esters in the diet leads to a 12-20% reduction in LDL-C levels (10). Consumption of 2 g of phytosterol per day together with individual variability may decrease Total-K and LDL-C by 7-10%, but has little effect on HDL-C and TG levels. The use of vegetative food supplements (such as monacolin and fermented red rice, soy protein, policosanol, and berberine) for the treatment of dyslipidemia is not recommended and is not recommended.

CONCLUSION

The healthy nutrition and physical activity constitute the foundation stone of the preventive medicine as it has a positive effect on cardiovascular risk, including the modification of the lipid profile. Healthy lifestyle habits increase the efficacy of drug treatment and reduce the need for treatment.

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