NON-PHARMACOLOGICAL TREATMENT FOR SYSTEMIC HIGH BLOOD PRESSURE: A NARRATIVE REVIEW

TRATAMENTO NÃO-FARMACOLÓGICO DA HIPERTENSÃO ARTERIAL SISTÊMICA: REVISÃO NARRATIVA

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ABSTRACT

Systemic arterial hypertension is a highly prevalent disease that serves as a condition and a risk factor for other cardiovascular diseases. Patients with a genetic predisposition may develop systemic arterial hypertension in adulthood if they maintain a sedentary lifestyle and unhealthy eating habits. Non-pharmacological treatment is indicated at all stages of hypertension, regardless of blood pressure level. Adopting a healthy, low-sodium diet, reducing stress, limiting alcohol consumption, quitting smoking, and engaging in regular physical exercise may reduce the dosage of antihypertensives or lead to their discontinuation.

Keywords: High blood pressure; Treatment; Life style

RESUMO

A hipertensão arterial sistêmica (HAS) é uma doença de elevada prevalência entre as enfermidades cardiovasculares, sendo, ao mesmo tempo, uma afecção e um fator de risco para outras. Pacientes com predisposição genética podem desenvolver HAS na idade adulta, caso mantenham estilo de vida sedentário e permaneçam com hábitos alimentares não saudáveis. O tratamento não medicamentoso está indicado em todos os estágios da hipertensão, independentemente do nível pressórico. A adoção de alimentação saudável, hipossódica, redução do estresse, restrição ao consumo de álcool, cessação do tabagismo e prática de exercício físico pode levar, inclusive, à diminuição da dosagem dos anti-hipertensivos ou até mesmo sua suspensão.

Palavras-chave: Hipertensão arterial; Tratamento; Estilo de vida

INTRODUCTION

Systemic arterial hypertension (SAH) is a multifactorial condition defined by a sustained high blood pressure (BP) ≥ 140/90 mmHg1. It is often associated with metabolic disorders that may cause functional or structural changes (or both) in target organs, such as the brain, heart, kidneys, retina, and vessels. The presence of other risk factors, including dyslipidemia, abdominal obesity, glucose intolerance, and diabetes mellitus[2], may exacerbate the condition.

In Brazil, the prevalence of SAH is variable, ranging from 2.5% to 30.9%, and increases with advancing age[3,4].

The primary aim of non-pharmacological treatment is to reduce cardiovascular morbidity and mortality using lifestyle modifications that decrease BP[5]. Important factors to be encouraged include a healthy diet based on the Dietary Approaches to Stop Hypertension (DASH) diet, regular physical activity, smoking cessation, stress management, and reduced alcohol consumption. Adopting these practices may prevent disease complications and also delay the need for pharmacological treatments for patients with grade 1 SAH, particularly in those who are obese and sedentary[6]. When medications need to be included, they should be combined with non-pharmacological treatment[8].

Lifestyle changes should be encouraged in all hypertensive patients throughout their lives, regardless of BP levels. Some strategies were effective in reducing BP and lowering the risk of cardiovascular events[9,10].

METHODS

This narrative and exploratory review used a

bibliographic survey of national and international journals, as well as European, Brazilian, and North American guidelines on arterial hypertension. The included studies were indexed in the PubMed, Scielo, and Cochrane databases in the last ten years without language restrictions.

The search terms ''hypertension'', ''treatment'', and ''cardiovascular diseases'' were used as Health Sciences Descriptors and Medical Subject Headings to broaden the identification of relevant texts.

The review established a logical and rational connection between different authors on the topic, without considering the chronological order of publications.

COMMENTS

The DASH dietary pattern, rich in fruits, vegetables, fiber, minerals, and low-fat dairy products, has a significant impact on BP reduction[11]. The high adherence to this diet reduced the development of SAH by 14%, and its benefits on BP are associated with a high intake of potassium, magnesium, and calcium[12]. The DASH diet also potentiates the effect of nutritional guidance for weight loss, reducing cardiovascular risk biomarkers.

The Mediterranean diet is a highly recommended and effective approach for hypertensive patients, with a hypotensive effect. This diet is rich in fruits, vegetables, and whole grains, but it also includes a high quantity of olive oil (a source of monounsaturated fats), along with fish, nuts, and a moderate consumption of wine[13]. Brazilian researchers have identified local substitutions by changing wine with unsweetened grape juice, an option without alcohol that raises good cholesterol (high-density lipoprotein) and reduces bad cholesterol (low-density lipoprotein), and sardines for mackerel, as both are rich in Omega-3. These substitutions are crucial because they involve easily accessible foods in a country with socioeconomic challenges. Similarly, vegetarian diets, which prioritize plant-based foods (e.g., fruits, vegetables, grains, and legumes) while excluding animal proteins, have been associated with lower BP[14].

The diet for hypertensive patients should be low in sodium, with a daily salt intake restricted to 5 g. This benefit can be further enhanced by a stricter restriction (daily salt consumption of 2g), which has been proven to reduce BP15,16. However, the average Brazilian consumption is above the recommended (11.38 g/day). Fiber intake promotes a slight decrease in BP, with beta-glucan from oats and barley being particularly notable17. Omega-3 fatty acids from fish oils (eicosapentaenoic acid [EPA] and docosahexaenoic acid [DHA]) are associated with a modest reduction in BP. Recent studies indicate that an intake of ≥ 2 g/day of EPA+DHA reduces overall blood pressure, while lower doses (1 to 2 g/day) reduce only systolic BP18. The consumption of monounsaturated fatty acids has also been associated with reduced BP.

Regular physical activity is beneficial for preventing and treating SAH, as it reduces cardiovascular morbidity and mortality. Active individuals have a 30% lower risk of developing SAH than sedentary people, and increasing daily physical activity lowers BP. In most studies, physical training has been shown to decrease BP in hypertensive patients, with average reductions of 11 mmHg systolic and 6 mmHg diastolic. The recommended exercise frequency is three to five sessions per week, each lasting 15 to 60 minutes, for a minimum weekly total of 150 minutes19,20. However, high-load isometric and anaerobic physical activity is not recommended because it excessively increases systolic and diastolic arterial pressures during the exercise session.

Smoking is linked to at least 25 diseases, including cardiovascular ones, making it a negative factor for controlling hypertension. Besides BP control, smoking hinders arterial stiffness[21].

Habitual alcohol consumption elevates BP linearly, and excessive consumption is associated with an increased incidence of SAH. It is estimated that a daily increase of 10 g of alcohol raises BP by 1 mmHg, while a decreased consumption lowers BP. Therefore, moderation in alcohol consumption is recommended[22].

Studies on stress management practices highlight the importance of behavioral psychotherapies, meditation, biofeedback, and relaxation in the treatment of SAH. Despite methodological inconsistencies, clinical indications reveal a strong trend of BP

reduction when these techniques are performed alone or combined[23].

CONCLUSION

Ongoing research aims to define the most effective non-pharmacological habits for SAH, with new studies regularly published to decrease the prevalence of hypertensive patients.

Non-pharmacological treatment is indicated for all hypertensive patients, regardless of their BP level, due to its proven efficacy in numerous clinical studies and its recommendation in all relevant worldwide guidelines.

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