

EDITORIAL

The Challenge of Controlling Resistant Hypertension

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Hypertension is the main risk factor for cardiovascular disease, stroke, disability and death.¹ Despite the accumulated knowledge about hypertension and many treatment options, some hypertensive patients do not achieve the recommended blood pressure goals even receiving non-pharmacological treatment and three antihypertensive drugs. These individuals have the so-called “resistant hypertension” and are at increased risk of involvement of target organs, higher morbidity and mortality.

Several international scientific societies, including the Brazilian Society of Cardiology,¹ have dedicated to publishing evidence-based guidelines for the management of arterial hypertension,^{2,3} and specific position statements on resistant hypertension have also been produced.^{4,5} The Department of Hypertension of the Brazilian Society of Cardiology is about to issue an updated statement on the subject.

This issue of the International Journal of Cardiovascular Sciences presents the results of the study entitled “Association between Therapeutic Adherence and the Profile of Patients with Resistant Hypertension”, by Araújo and Aras Junior.⁶ The study was conducted with hypertensive patients seen in an outpatient clinic of a university hospital in Brazil and adds to the knowledge about the management of resistant hypertension in our country.⁶ The study brings encouraging results, showing that 83% of patients had good adherence to treatment, maybe because they were seen in a tertiary health care institution. Twenty percent of patients had pseudo-resistant hypertension and 17% refractory hypertension (patients with uncontrolled hypertension

even taking five or more antihypertensive drugs). However, even with good adherence to treatment, only 38% of the individuals had controlled blood pressure.⁶

In view of the high risk of resistant hypertension, blood pressure control of patients with this condition is imperative. However, for different reasons, control has been shown to be less than desirable, at least in our country. In the Brazilian study ReHOT (Resistant Hypertension Optimal Treatment), blood pressure control during office (<140/90 mm Hg) and 24-hour ambulatory blood pressure monitoring (<130/80 mm Hg) was achieved in only 21% of patients, while when ambulatory blood pressure monitoring (ABPM) control was considered alone, 44% and 46.2% control were observed in the groups that received spironolactone and clonidine, respectively.⁷ In the PATHWAY-2 (Prevention and treatment of hypertension with therapy based on algorithm number 2) study, carried out in the United Kingdom, the target for systolic blood pressure below 135 mmHg was achieved in 69% of patients.⁸

It is important to remember that resistant hypertension is a relatively common condition. In the ReHOT study, resistant hypertension was observed in 12% of the Brazilian hypertensive population,⁷ which is comparable with the rates reported in population studies, such as National Health and Nutrition Examination Survey (12%)⁹ and the Brazilian Longitudinal Study of Adult Health (11 %).¹⁰ A recent survey conducted in the United States revealed that 20% of North American hypertensive patients are apparently resistant to treatment, corresponding to 3% of the adult population.¹¹

Patients with resistant hypertension, in general, have a higher frequency of comorbidities, such as obesity, diabetes mellitus, obstructive sleep apnea, history of cardiac, cerebrovascular and renal diseases.⁷

Keywords

Hypertension/prevention and control; Blood Pressure; Drug Resistance; Medication Adherence; Morbidity.

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It is essential that patients with resistant hypertension and possible associated clinical conditions be properly identified. For an effective treatment, there must be awareness and interaction of patients with the health team,

selection of pharmacological and nonpharmacological treatment, and good treatment adherence, aiming at blood pressure control and reduction of morbidity and mortality of these high-risk patients.

References

1. Malachias MVB, Souza WKS, Plavnik FL, Rodrigues CIS, Brandão AA, Neves MFT, et al., Sociedade Brasileira de Cardiologia. VII Diretriz Brasileira de Hipertensão Arterial. *Arq Bras Cardiol* 2016; 107(3Supl.3):1-83.
2. Whelton PK, Carey RM, Aronow WS, Casey DE Jr, Collins KJ, Dennison Himmelfarb C, et al. 2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. *Hypertension*. 2018;71(6):e13-e115.
3. Williams B, Mancia G, Spiering W, Agabiti Rosei E, Azizi M, et al. 2018 ESC/ESH Guidelines for the management of arterial hypertension: The Task Force for the management of arterial hypertension of the European Society of Cardiology and the European Society of Hypertension: The Task Force for the management of arterial hypertension of the European Society of Cardiology and the European Society of Hypertension. *J Hypertens*. 2018 ;36(10):1953-2041.
4. Carey RM, Calhoun DA, Bakris GL, Brook RD, Daugherty SL, Dennison-Himmelfarb CR, et al. Resistant Hypertension: Detection, Evaluation, and Management: A Scientific Statement From the American Heart Association. *Hypertension*. 2018 Nov;72(5):e53-e90.
5. Alessi A, Brandão AA, Coca A, Cordeiro AC, Nogueira AR, Magalhães DF, et al. First Brazilian position on resistant hypertension. *Arq Bras Cardiol*. 2012;99(1):576-85.
6. Araújo LBS, Aras-Junior R. Association between Therapeutic Adherence and the Profile of Patients with Resistant Hypertension. *Int J Cardiovasc Sci*. 2020; 33(2):121-130.
7. Krieger EM, Drager LF, Giorgi DMA, Pereira AC, Barreto-Filho JAS, Nogueira AR, et al. Spironolactone Versus Clonidine as a Fourth-Drug Therapy for Resistant Hypertension: The ReHOT Randomized Study (Resistant Hypertension Optimal Treatment). *Hypertension*. 2018 Apr;71(4):681-90.
8. Williams B, MacDonald TM, Morant S, Webb DJ, Sever P, McInnes G, et al. Spironolactone versus placebo, bisoprolol, and doxazosin to determine the optimal treatment for drug-resistant hypertension (PATHWAY-2): a randomised, double-blind, crossover trial. *Lancet*. 2015;386(10008):2059-68.
9. Egan BM, Zhao Y, Axon RN, Brzezinski WA, Ferdinand KC. Uncontrolled and apparent treatment resistant hypertension in the United States, 1988 to 2008. *Circulation*. 2011; 124:1046-1058. doi: 10.1161/CIRCULATIONAHA.111.030189.
10. Lotufo PA, Pereira AC, Vasconcellos PS, Santos IS, Mill JG, Bensenor IM. Resistant hypertension: risk factors, subclinical atherosclerosis, and comorbidities among adults—the Brazilian Longitudinal Study of Adult Health (ELSA-Brasil). *J Clin Hypertens (Greenwich)*. 2015;17(9):74-80.
11. Carey RM, Sakuja S, Calhoun DA, Whelton PK, Muntner P. Prevalence of Apparent Treatment-Resistant Hypertension in the United States. *Hypertension*. 2019 Feb;73(2):424-31.

