

Antihypertensive treatment of a patient with normal blood pressure: case report and call for paying attention

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The current 2024 European Society of Cardiology (ESC) guideline for the management of elevated blood pressure and hypertension defines blood pressure less than 115/65 mmHg by ambulatory blood pressure monitoring (ABPM) as nonelevated, blood pressures in-between 115–129 and 65–79 mmHg as elevated blood pressure, and hypertension as $\geq 130/80$ mmHg. There, might be patients seeking medical attention for the symptoms, apparently nonspecific but suggestive of hypertension with optimal, or not elevated, or elevated blood pressure values. A female patient with complaints of headache and dizziness lasting for 2 months has been evaluated in cardiology outpatient clinic and assessed by ABPM. It has been told that she had previously blood pressure of 90–100/50–60 mmHg and was suffering from headache when systolic blood pressure exceeds 110 mmHg. Her 24-h ABPM revealed systolic and diastolic blood pressure as 106/63 mmHg showing nighttime decrease compared with daytime pressures (98/59 mmHg and 108/68 mmHg, respectively). Thereafter, she was instructed to keep continuing the life-style modification and given to beta-blocker (bisoprolol 5 mg) as an

antihypertensive treatment. At the end of the 2 weeks of follow-up period, she was headache-free and was feeling comfortable and well with a mean home blood pressure of 98/56 mmHg. We have presented prosperous antihypertensive treatment of a female patient suffering from headache and dizziness with a numerically normal or nonelevated blood pressure. In the presence of symptoms and having not elevated or elevated blood pressure levels, patients' history on previous measure of blood pressure might facilitate our decision-making process. *Blood Press Monit* 30: 234–235 Copyright © 2025 Wolters Kluwer Health, Inc. All rights reserved.

Blood Pressure Monitoring 2025, 30:234–235

Keywords: blood pressure, constitutional hypotension, headache, hypertension

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Received 28 March 2025 Accepted 14 May 2025.

Case report

A 56-year-old female patient, 67 kg in weight and 1.63 m in height, visited the cardiology outpatient clinic with the main complaints of headache and dizziness for 2 months. She had no diabetes, known coronary artery disease, hypertension, and smoking history. Her physical examination revealed normal cardiovascular findings of normal heart sounds, heart rate of 84 beats/min, systolic blood pressure (SBP), and diastolic blood pressure (DBP) of 110/70 mmHg. Her routine biochemical and hematologic analysis were within normal range. Electrocardiogram revealed normal sinus rhythm without any abnormal or ischemic changes. Left ventricular systolic, diastolic functions, and valvular structures were shown to be normal by echocardiographic examination. It was told that she had previously blood pressure of 90–100/50–60 mmHg and was suffering from headache when SBP exceeds 110 mmHg. She had also undergone neurologic examination previously for the sole purpose of seeking the etiology of headache. Accordingly, 24-h ambulatory blood pressure monitoring (ABPM) was planned to assess her blood pressure. Her 24-h ABPM revealed SBP and DBP as 106/63 mmHg showing nighttime decrease compared with daytime pressures (98/59 mmHg and 108/68 mmHg, respectively). The maximum SBP and DBP were 126

and 89 mmHg observed during daytime. The minimum SBP and DBP were 80 and 40 mmHg observed during nighttime. Her headache and dizziness episode coincided with the sequential SBP and DBP measures of 118/78–126/89 mmHg and associated heart rate of 90–96 beats/min during 24 h-ABPM. Her interview with the clinician confirmed that she had already good adherence to lifestyle changes in regard to salt consumption, physical activity, and Mediterranean diet. Thereafter, she was instructed to keep continuing the lifestyle modification and given to beta-blocker (bisoprolol 5 mg) mainly due to relatively high heart rate, as an antihypertensive treatment. At the end of the 2 weeks of follow-up period, she was headache-free and was feeling comfortable and well. Her mean home blood pressure measurement was 98/56 mmHg without any hypotensive attack. During the next 3-month follow-up period, she reported only a slight headache episode without any hypotensive symptoms, and her home blood pressure values were reported to be around 90–100/50–65 mmHg.

Discussion

Herewith, we have presented prosperous antihypertensive treatment of a female patient suffering from headache and dizziness with a numerically normal or nonelevated

blood pressure. The profound insights of our case are (1) the assessment of symptoms in association with hypertension, (2) giving antihypertensive treatment despite to normal pressure values, and (3) successful amelioration of symptoms by lowering blood pressure.

The current 2024 European Society of Cardiology (ESC) guideline for the management of elevated blood pressure and hypertension defines blood pressure less than 115/65 mmHg by ABPM as nonelevated, blood pressures in-between 115–129 and 65–79 mmHg as elevated blood pressure and, hypertension as $\geq 130/80$ mmHg [1]. Office blood pressure less than 120/70 mmHg corresponds to nonelevated blood pressure defined by the latest ESC guideline [1]. Regarding the cutoff values defined by the guidelines [1,2], giving antihypertensive treatment to the patient with optimal blood pressure or nonelevated blood pressure or elevated blood pressure values seems to contradict the current recommendations. However, the presence of headache and dizziness and patient's self-reported, previously lower values of blood pressure (90–100/50–60 mmHg) have convinced us to administer antihypertensive medicine with a mean ABPM value of 108/67 mmHg.

We believe that this case is not the unique or rarely seen scenario in daily clinical practice. A considerable amount of patient might have been seeking medical attention for the symptoms, apparently nonspecific but suggestive of hypertension with an optimal, not elevated, elevated blood pressure values. Therefore, individual symptom-based assessment of patients is crucially important especially in those with normal blood pressure values. This case is also an example of turning out of a patient from constitutional hypotension (CH) to hypertensive state with normal blood pressure values. CH has been defined as SBP less than 100 mmHg in literature [3,4]. It also underlines that more rigorous blood pressure control or symptomatic assessment is needed in those who have previously CH. Meanwhile, meticulous follow-up of blood pressure after initiation of antihypertensive treatment for such a patient is crucially important not to allow symptomatic hypotensive episodes.

Diagnostic criterion of blood pressure in terms of cardiovascular risk establishment, associated risk factors,

and treatment approaches have well been described by defining numerical cutoff values regarding the cardiovascular morbidity and mortality aspects. Within this, context quantitative measure of blood pressure and qualitative assessment of comorbid conditions have paramount importance while tailoring the therapy. However, patients with office blood pressure values less than 140/90 mmHg and 24-h ABPM values less 130/80 mmHg and without any comorbid conditions might have been seeking medical attention for the symptoms suggestive of hypertension such as headache light headedness dizziness, palpitation, chest pain, and dyspnea. Therefore, in the presence of symptoms and having not elevated or elevated blood pressure levels, patients' history on previous measure of blood pressure might facilitate our decision-making process. It is likely that patients who have been constitutional hypotensive might turn into their own hypertensive state, which numerically falls into concisely normal blood pressure zone or optimal, nonelevated, and elevated blood pressure zone in depth [1,2].

Accordingly, we would like to have the liberty of this case to take the attention of clinicians for the patients seeking medical attention for the symptoms suggestive of high blood pressure but having numerically so-called normal values.

Acknowledgements

Conflicts of interest

There are no conflicts of interest.

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