Impact of the 2017 AHA/ACC hypertension guideline on hypertension prevalence and cardiovascular risk factors in a healthy older cohort

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On behalf: ASPREE Investigator Group

Topic(s):
Hypertension – Treatment

Citation:
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Background: The 2017 American Heart Association (AHA)/American College of Cardiology (ACC) hypertension guideline recommends a target blood pressure (BP) of <130/80 mmHg regardless of age, which is lower than previously recommended BP goals.

Purpose: We aimed to determine how much the updated classification for high BP would increase the overall prevalence of ‘hypertension’ in an otherwise healthy elderly population. Additionally, we explored the cardiovascular disease (CVD) risk factor distribution in those newly classified ‘hypertensives’ to determine whether the increased prevalence of hypertension was accompanied by an increase in other modifiable CVD risk factors.

Methods: We used baseline data from 19,114 participants (16,703 in Australia and 2,411 in the USA) aged ≥65 years who were enrolled in the ASPirin in Reducing Events in the Elderly (ASPREE) study between 2010 and 2014. Participants were classified as having hypertension using either: (a) pre-2017 thresholds (SBP =140 mmHg or mean DBP =90 mmHg and/or on anti-hypertensive) or (b) 2017 AHA/ACC guidelines (SBP =130 mmHg or DBP =80 mmHg and/or on anti-hypertensive). We assessed the presence of cardiovascular disease risk factors such as diabetes, hypercholesterolemia, smoking, obesity, reduced renal function among these hypertensive participants and also estimated their predicted risk over 10 years.

Results: Based on pre-2017 thresholds, 74% of the participants met the criteria for hypertension. Hypertension prevalence increased to 87% when the more stringent 2017 guideline was applied. 29% of this subset of newly classified hypertensive participants did not have any other identifiable traditional CVD risk factors. Further, a significantly lower 10-year predicted cardiovascular risk (22% versus 26%, p<0.001) among those newly classified hypertensive participants was observed in relation to those having hypertension based on pre-2017
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Conclusion: As expected, the prevalence of hypertension increased among the healthy elderly when applying the new AHA-2017 guideline; however, the increased prevalence occurs despite lack of an accompanying increase in additional CVD risk factors or predicted 10-year risk. Our findings suggest an individualized approach is needed in evaluating high BP among the healthy elderly.

Figure 1: 10-year predicted CVD risk among hypertensive and newly classified hypertensive ASPREE participants by presence of CVD risk factor

<table>
<thead>
<tr>
<th>Presence of Risk Factors (RF)</th>
<th>Pre-2017</th>
<th>2017 ACC/AHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No RF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 RF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 RF</td>
<td></td>
<td></td>
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<tr>
<td>3+ RF</td>
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CVD risk probability (%)