Optimal target blood pressure level for elderly with hypertension

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Target pressure <140/90 mm Hg allows better prevention of cardiovascular events, but this requires a more detailed examination.

Note

This article was exposed to the machine translation from Ukrainian.

Background

Hypertension is a common condition that is characterized by increased systolic and / or diastolic blood pressure higher than 140 and 90 mmHg, respectively. Despite the fact that in the most cases increased pressure is asymptomatic in nature, this condition significantly increases cardiovascular morbidity and mortality.

Patients with hypertension require an integrated approach for the prevention of cardiovascular problems, including lifestyle changes and pharmacotherapy. The main goal of pharmacotherapy is to reduce blood pressure to the extent to which the risk of cardiovascular events is the smallest. Target blood pressure may vary depending on the patient’s health status, age and concomitant diseases such as diabetes 2nd type.

Most clinical guidelines recommend before prescribing antihypertensive therapy calculate patient’s cardiovascular risk, i.e. the likelihood of developing cardiovascular diseases in the next 5 or 10 years.

Taken the Australian «Heart Foundation», the organization recommends to assess the risk, based on the patient’s age, presence of diabetes, its complications, chronic renal failure, cholesterol levels, initial (before treatment) blood pressure, and hereditary diseases related to lipid metabolism 1.

If there is a low cardiovascular risk (<10% for the next 5 years) the authors of the guidelines recommend starting antihypertensive therapy when the blood pressure levels are ≥ 160/100 mm Hg, with moderate and high risk (10-15% and> 15%) - ≥140 and / or ≥90 mmHg. This target level should be <140/90 mm Hg or lower if the patient tolerates treatment 1.

However, evidence base on the optimal levels for target blood pressure in hypertension remains low.

New Evidences

In the new Cochrane systematic review team led by Scott Harrison from the University of Alberta have analysed all available studies to establish the optimal target level of blood pressure in elderly with hypertension 2.
First, the authors wanted to know what benefits can provide standard therapeutic support with targeted systolic blood pressure (SBP) below 140 mmHg as compared to the higher target levels - <150 or 160 mm Hg. That is, the authors wanted to verify the validity of the recommendations of the most international clinical guidelines.

After reviewing all published works scientists selected 3 randomized controlled trials for further analysis. The total sample was 8221 people. The average age of patients - 75 years. The main results are presented in Table 1.

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Cases with SAP &lt;140</th>
<th>Cases with SAP &lt;150-160</th>
<th>Relative risk</th>
<th>Quality of evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall mortality</td>
<td>31 per 1,000</td>
<td>39/1000</td>
<td>1.24</td>
<td>Low</td>
</tr>
<tr>
<td>Stroke</td>
<td>20/1000</td>
<td>25/1000</td>
<td>1.25</td>
<td>Low</td>
</tr>
<tr>
<td>Cardiovascular events</td>
<td>42/1000</td>
<td>50/1000</td>
<td>1.19</td>
<td>Low</td>
</tr>
<tr>
<td>Stopping treatment because of side effects</td>
<td>17/1000</td>
<td>14/1000</td>
<td>0.83</td>
<td>Low</td>
</tr>
</tbody>
</table>

Table 1. Comparative efficacy of low and high levels of targeted systolic arterial pressure (SAP).

According to these data, supporting the low target level of SBP (<140 mmHg) really has its advantages. For example, it could reduce total mortality by 24%, the risk of stroke by 25% and cardiovascular events by 19%.

However, the quality of the evidence was low, which means the need for further study of this problem before creating recommendations. Thus, despite the fact that most international clinical guidelines recommend to follow low target levels of blood pressure, they don’t have sufficient evidentiary basis.

References