Hypertension: Pharmacologic Management

Key Highlights from the Recommended Guideline

- For uncomplicated hypertension, start with a thiazide diuretic.
- Many patients will require more than one drug to reach their target blood pressure.
- Heart failure, ischemic heart disease, diabetes, chronic renal disease and stroke are compelling indications for using other antihypertensive drug classes.

Scope: Health professionals involved in the care of patients with hypertension. Not for patients with hypertensive emergencies

What are the preferred drug options for patients with hypertension?

- First, reinforce the message to patients that lifestyle changes can significantly lower their blood pressures. [See GAC Summary: Hypertension: Lifestyle Changes] [Level of Evidence: RA]

- Use thiazide diuretics as a first-line agent, since they are well tolerated, less expensive than other drug classes, and have not been surpassed in preventing cardiovascular complications in patients with uncomplicated hypertension. [Level of Evidence: PR, RA, M]

- Remember that over two-thirds of patients with hypertension will require more than one antihypertensive drug to achieve their BP goal. [Level of Evidence: RA]

- In patients whose SBP ≥ 160 mm Hg or DBP ≥ 100 mm Hg, begin treatment with two drugs, usually a thiazide plus another class of drug (e.g. ACE inhibitor, ARB, BB, or CCB).1 Use caution if the patient is elderly or is at risk for orthostatic hypotension. [Level of Evidence: PR]

- Patients with compelling indications: consider other drugs in addition to (or instead of) diuretics in the following situations:
  - Heart failure [Level of Evidence: RA, PR]
    - ACE inhibitors (or ARBs if patient cannot tolerate ACE inhibitors)
    - β-blockers
    - Aldosterone antagonists (monitor for hyperkalemia)
  - Ischemic heart disease [Level of Evidence: RA]
    - Start with a β-blocker (unless contraindicated2)
    - Long-acting calcium channel blocker
    - ACE inhibitor

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1 ARB = angiotensin receptor blocker, BB = beta blocker, CCB = calcium channel blocker
2 Contraindications to the use of β-blockers include severe reactive airway disease, severe peripheral artery disease, high-degree AV block or sick sinus syndrome.
o Diabetes [Level of Evidence: RA, PR]
  - ACE inhibitors
  - β-blockers
  - ARBs
  - Calcium channel blockers

o Chronic kidney disease [Level of Evidence: RA, PR]
  - ACE inhibitor or ARB
  - These patients may need a loop diuretic rather than a thiazide diuretic

o Stroke [Level of Evidence: RA]
  - For primary stroke prevention: no specific agent is preferred
  - For secondary stroke prevention: diuretic + ACE inhibitor

- Follow up monthly or until BP goal is achieved; once goal is achieved, follow up q3-6 months (comorbidities may require more frequent follow-up). Monitor serum potassium and creatinine at least once or twice yearly. [Level of Evidence: Not Stated]

- If not at goal blood pressure, optimize dosages or add additional drugs until goal blood pressure is achieved. Consider consulting a hypertension specialist. [Level of Evidence: Not Stated]

- Treat other cardiovascular risk factors. [Level of Evidence: Not Stated]

Levels of Evidence

The levels of evidence used to grade the recommendations in this guideline are as follows:

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>Meta-analysis; use of statistical methods to combine the results from clinical trials</td>
</tr>
<tr>
<td>RA</td>
<td>Randomized controlled trials; also known as experimental studies</td>
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<tr>
<td>RE</td>
<td>Retrospective analyses; also known as case-control studies</td>
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<tr>
<td>F</td>
<td>Prospective study; also known as cohort studies, including historical or prospective follow-up studies</td>
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<tr>
<td>X</td>
<td>Cross-sectional surveys; also known as prevalence studies</td>
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<tr>
<td>PR</td>
<td>Previous review or position statements</td>
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<tr>
<td>C</td>
<td>Clinical interventions (nonrandomized)</td>
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</tbody>
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The above recommendations were derived from the following GAC endorsed guideline:


Rating (out of 4): 🍅

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