Hypertension and Cholesterol in the Elderly

Angela Sanford, MD
Assistant Professor of Geriatrics
Saint Louis University School of Medicine

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Complications of Hypertension: Target-Organ Damage

TIA, stroke
Retinopathy
Peripheral vascular disease
Renal failure
LVH, CHD, HF
WHAT IS THE IDEAL BLOOD PRESSURE FOR OUR ELDERLY PATIENTS?

From: 2014 Evidence-Based Guideline for the Management of High Blood Pressure in Adults: Report From the Panel Members Appointed to the Eighth Joint National Committee (JNC 8)

Blood Pressure

In this modeling study, 1.65 million deaths from cardiovascular causes that occurred in 2010 were attributed to sodium consumption above a reference level of 2.0 g per day.


How effective is the “low sodium” diet?

Pharmacologic Treatment

- Medication selection principles (my opinion)
  - Use cheapest drugs
  - Simplest regimen possible
  - Start one agent, maximize, then add additional agent if necessary
  - Try to avoid medications that need to be taken two and three times/day if possible
Pseudohypertension

- AKA “Noncompressibility Artery Syndrome”
- Falsely elevated BP reading due to calcified blood vessels
- Suspect in those with:
  - Persistently elevated BP w/ no evidence of end-organ damage
  - Symptoms of overtreatment (lightheadedness, falls)
- Osler Maneuver:
  - Inflate BP cuff until radial pulse is obliterated.

Orthostatic Hypotension

- Defined as a decrease in systolic BP by >20 mmHg or decrease in diastolic BP by >10 mmHg within 3 minutes of standing
- Results from
Orthostatic Hypotension

- Can cause lightheadedness, dizziness, syncope, weakness, fatigue, falls
- Exacerbated by
  - Age
  - Many, many meds (BP meds, an gabapentin, anti-dementia med
  - Dehydration/vol depletion
  - Anemia
  - Parkinson’s Disease

Orthostatic Hypotension

- Measure standing BP in ALL older persons

Orthostatic Hypotension

- Treatment:
  - Reduce antihypertensive medications if possible
  - Hydration modification
  - Increase salt and fluid intake
  - Increase foot of bed
  - Use propranolol
  - Naloxone
  - Ephynephrin
One thing to keep in mind….

- Obstructive Sleep Apnea:
  - Is a common cause of HTN, especially new onset HTN
  - Increases catecholamines and cortisol
  - Should ask about snoring, daytime somnolence
  - Makes existing HTN difficult to control (often need multiple agents)

Switching gears….

**CHOLESTEROL IN THE ELDERLY**
Background on New Guidelines

- Developed using randomized controlled trial (RCT) data from numerous studies
- Basis: Higher LDL → increased risk of CVD and lowering LDL will decrease events
  - Absolute reduction of events is proportional to baseline absolute risk
- Statins are drug of choice, as evidence is lacking on efficacy of other lipid lowering meds
- Small mention of lifestyle modification

More Background

- High Intensity: Lowers LDL by >50%
  - Atorvastatin 40-80 mg
  - Rosuvastatin 20-40 mg
- Moderate Intensity: Lower LDL by 30-50%
  - Atorvastatin 10-20 mg
  - Rosuvastatin 5-10 mg
  - Pravastatin 40-80 mg
Now onto the Guidelines...what do they say?

New Cholesterol Guidelines

- 4 groups that would benefit from statins (CVD risk reduction outweighs statin adverse effect risk) identified:
  - 1. Those with clinical hx of CVD (prior MI/CAD/stroke/TIA/PAD) → secondary prevention
  - 2. Those w/ LDL levels >190 mg/dL
  - 3. Diabetics age 40-75 w/ LDL of 70-189 without known CVD

What's this Risk Calculator?

CV RISK CALCULATOR

How Do These Apply to Our Elderly Patients?

- Few trials have included pts > 75 y/o
- The little data available do not support initiation of high-intensity statin tx for secondary prevention in those >75 (adverse side effects)
How Do These Apply to Our Patients?

- Little data also supporting CVD event reduction in primary prevention among pts >75 w/ no clinical CVD
- Clinical risk calculator stops at age 79
  - Must also consider that we are looking at a 10-yr risk of CVD, so if pt doesn’t have a 10-yr life expectancy, statin therapy is not likely to be beneficial
- Under the guideline “limitations” section

PROs

- Pros:
  - New guidelines do identify pts for whom RCT data do not support statin therapy and have entire groups of people (>75 y/o, HD, or CHF) for whom no recommendation is made
  - Elimination of routine LDL level assessment in pts receiving statins because target levels are not emphasized

CONs

- Cons:
  - Risk calculator has not been prospectively tested for accuracy and grossly overestimates CVD risk
    - Also not validated in races other than African American or Caucasian
  - New criteria could result in >45 million Americans (1 in 3 adults) who do not have CVD to be
“...This apparently seasoned integration of data and opinion eventually would lead to massive use of statins at the population level; i.e. ‘Statinization.’ It is unclear whether this would be one of the greatest achievements or one of the worst disasters of medical history.”

—Dr. J Ioannidis, JAMA editorial

Case Examples—Case #1

- 79 y/o AAM
  - Non-diabetic, non-smoker
  - Systolic BP of 120 (not on BP meds)
  - T chol-150, HDL-40
  - Calculated 10-yr risk of CVD is 13.7%

  Statin or not???

Case Examples—Case #2

- 55 y/o WM
  - Smoker, hx of HTN, non-diabetic
  - Systolic BP of 145 on antihypertensives
  - T-chol of 180 (LDL chol of 75, HDL chol of 50)
  - Calculated 10-yr risk of CVD of 9.6%

  Statin or not???
In Conclusion…

• The new cholesterol guidelines do not have any recommendations for primary prevention of CVD in those >75 y/o
  – Small amounts of data for secondary prevention, but only w/ mod. intensity statins
• As always, must use clinical judgment in terms of risk vs. benefit and take into account

As a geriatrician…

• I look at life expectancy and quality of life
  – In frail elders w/ multiple medical comorbidities, a statin will likely not change their disease trajectory
  – Statins have a very limited role in my nursing home population. Exceptions are in cases of acute cardiovascular events and then the question becomes—how long do I continue this after the event?

“The value of experience is not in seeing much, but in seeing wisely.”
William Osler
One of the first duties of the physician is to educate the masses not to take medicine

- William Osler - (1849 - 1919)

"The person who takes medicine must recover twice, once from the disease and once from the medicine."

William Osler, M.D.