Hypertension Academic Half Day
University of Cincinnati, Internal Medicine
9/2/2021

AGENDA:
1:10-1:25 Large Group: Theory Burst
1:25-2:25 Section 1
2:25-2:35 Break
2:35-2:40 Expert
2:40-3:20 Section 2
3:20 -3:30 Expert and Wrap-up

ACC/AHA 2017 Guidelines

Ms. Spike

You see Ms. Spike in clinic to establish care as she recently moved to Cincinnati. She is a 48 yo female with PMHx of HLD, tobacco use, COPD, and morbid obesity. Her BP today is 152/82. She denies ever being told that she has high blood pressure.

1. What is required to get the most accurate blood pressure? Does she have a diagnosis of hypertension?

2. Before she leaves, is there any additional information you would like, labs to order, or counseling to offer?

3. As you prepare to see her back in clinic 1 week later you review the 2017 ACC/AHA blood pressure guidelines (see QR code at top) and fill out the below table. What are lifestyle modifications (see QR code right) for hypertension?

Classification:	Blood Pressure:	Approach:
Normal		
Elevated		
Stage 1 HTN		
Stage 2 HTN		

Lifestyle Modification:

4. She returns to clinic 1 week later with a BP of 156/88. What are four first line classes of antihypertensives to choose from?

Diagnosis?
Treatment Plan:
Goal BP?

Class of 1st Line agent	Advantage?	Disadvantage?

5. In addition to lifestyle changes you decide to start her on combo HCTZ/Lisinopril 12.5-10 mg by mouth daily. What do you discuss with her prior to leaving the office? What is your follow-up plan?

Ms. Cuff

Ms. Cuff is a 42 yo female with PMHx of diabetes mellitus type 2 and pre-eclampsia during her last pregnancy 10 years ago. She sees you to establish care as her previous provider retired (she brought in old records). She denies symptoms. She is only prescribed metformin 500 mg BID. Her prior PCP's notes show that her BP was previously 145/92. She wanted to avoid medications, she reports for the past 2 months that she has been walking 3x/week and avoiding salty foods like microwaved meals and potato chips.

BMI 29
VS: BP 138/84, HR 76
PE: truncal adiposity, otherwise unremarkable

1. As you review her records, what specific information are you looking for? Why?

2. You find Ms. Cuff's results. Her BMP and UA last month were normal, and her A1c was 7.2%. What do you do next? What are Ms. Cuff's treatment goals?

4. What if her UA had an albumin:creatinine ratio of 300 mg/g? Does your treatment or treatment goal change?

5. She returns to clinic in 4 weeks. She reports she forgot to mention she was taking ibuprofen for nonspecific knee pain and she stopped taking it after you asked about this type of medication at the last visit. Today, blood pressure is 141/92. What do you do next?

6. In previous years this case had a stem that included this patient's race as American American. When do you include race in your one liner? When/how does it change your management?

Mr. Geri

Mr. Geri is an 75yo male with PMHx of HTN, TIA, and history of NSTEMI 5-years ago s/p 2 DES to mid-LAD. He presents in clinic today for follow-up. He has been trying to follow the DASH diet. His medications include ASA 81 mg qday, Lisinopril 40 mg qday, metoprolol succinate 12.5 mg qday, amlodipine 10 mg qday, and atorvastatin 40 mg qday

ROS negative for CP, SOB; BMI 23
VS: BP 143/65, HR 72
PE: unremarkable except for trace pitting edema bilateral lower extremities
Labs: CBC wnl, CMP reveals GFR 50 mL/min/1.73m^2 (unchanged from 6 months ago), ACR 3mg/g

1. Is there any additional information you need from Mr. Geri's history?

2. Mr. Geri lives at home with his 72yo wife. He still functional around the house, able to go up and down the 4 steps at front door. He and his wife perform their ADLs but rely on neighbors for strenuous needs. What are your thoughts with Mr. Geri's hypertension?

3. What would you do next? What things do you need to discuss with Mr. Geri?

Break

Mr. Redding

Mr. Redding is a 67 yo male with PMHx of tobacco use (50 pyh), HLD, DM2, and obesity presenting for follow-up of longstanding hypertension. He has reduced his cigarette use over the past three years ago. He takes metoprolol 50, amlodipine 10, chlorthalidone 25, ASA 81 and
atorvastatin 80. BP history:

BP	Time
143/81 mm Hg	1 year ago
150/92 mm Hg	6 months ago
158/93 mm Hg	3 months ago
170/99 mmHg	Today

1. What's the term used for this patient's presentation? How does this change your management?

On physical exam you hear this on abdominal exam (scan QR code).

2. When should we be concerned about adverse effects of an ACEi or ARB on renal function?

3. What is the most likely diagnosis? Explain the pathophysiology.

4. How do you confirm the diagnosis? What is your treatment for Mr. Redding?

5. What else might have been in your differential for secondary hypertension? What physical exam findings or labs might help make a diagnosis?

Differential Diagnosis	**Hx / PE clues:**	**Screening lab / test**
Aldosterone Excess		
Pheochromocytoma		
	HTN, Diabetes, bone-mineral disease, moon faces, central obesity, striae, buffalo hump, weight loss (if ectopic ACTH/malignancy) vs weight gain, hyperpigmentation	
	Bruit, creatinine increase after ACEi, flash pulmonary edema	
	Snoring, daytime fatigue/somnolence, morning HA, lower extremity edema (possibly from DD), obesity	
	Weight loss, increased energy, decreased sleep, heat intolerance	

Ms. Gibbs

Ms. Gibbs is a 52 yo female with PMHx of DM2 (last HgA1c 9.5) who is HD 4 for RLE diabetic ulcer. So far her hospital stay is uncomplicated. She is on Vancomycin and Cefepime. She has no history of smoking or drug use. You are on night float. You receive a page, her nurse informs you that the PCA just checked Ms. Gibb's BP and it is elevated to 198/95 mmHg.

1. What follow up questions will you ask the nurse? What should you do next?

2. What is your diagnosis? How would you treat Ms. Gibbs?

3. If instead when you evaluated Ms. Gibbs, you found that she was complaining of a headache, blurry vision and intermittently confused – what would be your diagnosis? What do you want to do for her?

Objectives:

1. Diagnose hypertension accurately using ACC/AHA guidelines
2. Prescribe initial therapy for HTN in outpatient setting
3. Recognize triggers for secondary hypertension evaluation
4. Differentiate different types of severe HTN and manage using evidence-based strategies

What are you going to remember from this week?