Adult and Elderly Hypertension: PBL

Jennifer Brull, MD, FAAFP

ACTIVITY DISCLAIMER

The material presented here is being made available by the American Academy of Family Physicians for educational purposes only. This material is not intended to represent the only, nor necessarily best, methods or procedures appropriate for the medical situations discussed. Rather, it is intended to present an approach, view, statement, or opinion of the faculty, which may be helpful to others who face similar situations.

The AAFP disclaims any and all liability for injury or other damages resulting to any individual using this material and for all claims that might arise out of the use of the techniques demonstrated therein by such individuals, whether these claims shall be asserted by a physician or any other person. Every effort has been made to ensure the accuracy of the data presented here. Physicians may care to check specific details such as drug doses and contraindications, etc., in standard sources prior to clinical application. This material might contain recommendations/guidelines developed by other organizations. Please note that although these guidelines might be included, this does not necessarily imply the endorsement by the AAFP.

DISCLOSURE

It is the policy of the AAFP that all individuals in a position to control content disclose any relationships with commercial interests upon nomination/invitation of participation. Disclosure documents are reviewed for potential conflict of interest (COI), and if identified, conflicts are resolved prior to confirmation of participation. Only those participants who had no conflict of interest or who agreed to an identified resolution process prior to their participation were involved in this CME activity.

All individuals in a position to control content for this activity have indicated they have no relevant financial relationships to disclose.

The content of my material/presentation in this CME activity will not include discussion of unapproved or investigational uses of products or devices.

Jennifer Brull, MD, FAAFP

CEO and Physician/Owner, Prairie Star Family Practice, PA; Clinical Director and Operations Manager, Doctors Without Delay; Meaningful Use Consultant, Kansas Foundation for Medical Care

Dr. Brull lives and practices full-scope rural family medicine in Plainville, Kansas. She sees patients in office, hospital (critical access), emergency room, nursing home, hospice, and home settings. Her patients range in age from birth to more than 100 years old. Dr. Brull has volunteered as a clinical faculty member for the University of Kansas School of Medicine since 2002 and has been teaching at conferences for 12 years. Her areas of specialty include quality/performance improvement, EHR/HIE, social media, and the patient-centered medical home. In 2014, Dr. Brull received the University of Kansas School of Medicine's Student Assembly Ad Astra Outstanding Volunteer Award, and the CDC named her a Million Hearts Hypertension Control Challenge Champion.

Learning Objectives

1. Practice applying new knowledge and competencies gained from Adult and Elderly Hypertension sessions, and receive feedback from expert faculty.
2. Interact collaboratively with peers to solve complex and challenging case-study scenarios.
3. Develop problem-solving skills that promote effective reasoning to manage hypertension within the context of professional practice.

Audience Engagement System

Step 1 Step 2 Step 3

Adult & Elderly Hypertension
PBL Case #1

Jen Brull, MD, FAAFP

Chief Complaint

38 year old black male checks in at urgent care clinic for chief complaint of 'sore throat with headache' and the medical assistant reports that his blood pressure was 184/98 when vitals were taken shortly after arriving.

What next steps might you take before going to see the patient?

History of the Present Illness

Patient reports that he woke up this morning with a sore throat and wanted to get checked for Strep because his daughter is currently undergoing chemotherapy and he doesn't want to make her sick. He reports the headache has been present for "a while, now that I think about it" and that he has not had his BP checked for several years and does not see a primary care provider regularly.

Past Medical and Surgical History

"Healthy"

No surgeries reported.

Most recent doctor visit 2-3 years ago for a similar acute complaint; does not remember being told anything about his BP at that visit.

Medications / Allergies

NKDA

No medications

Takes multivitamin, creatine supplement and unknown OTC "weight loss" pill.

Family History

Father: deceased of MI at age 54; "smoker"
Mother: living; reported "healthy"
Siblings: none

Social History

Divorced x 1 year
Employed as seasonal worker for USPS
Tobacco: past smoker, quit when dad died; 22 pack-year history
Alcohol: 10-12 beers per week (weekends)
No history of illicit substance use/abuse

Which risk factors do you identify for this patient?

Review of Systems

He complains of headaches, low grade fever, sore throat, nausea, stress/anxiety about daughter's illness and poor sleep.

Negative for chest pain, shortness of air, edema. No recent weight gain. Otherwise negative ROS.

Physical Examination

Height 72" Weight 250 BMI 33.9
Pulse 102, Respirations 14, Blood Pressure 184/98
Repeat Blood Pressure 176/92

General: Obese BM NAD A&O x 3
CV: tachycardic, regular rhythm, no murmurs, normal PMI
Chest: no respiratory distress, lungs clear bilaterally
Abdomen: soft, nontender, NABS
Extremities: no edema, no cyanosis

Lab Testing

Rapid Strep is NEGATIVE
Electrolytes are NORMAL

Serum Creatinine is 2.5
Serum Glucose is 169 (post prandial)
Urine Protein is 2+

What are your diagnoses today?

What are next steps for this patient?

Current Recommendations

GUIDELINE	POPULATION	BP GOAL	INITIAL TREATMENT OPTIONS
ADA (2013)	Patients with diabetes mellitus	< 140/80	ACE inhibitor or ARB
American + International Society of HTN (2014)	General ≥ 80 years	< 150/90	Nonblacks: thiazide diuretic, ACE inhibitor, ARB, or CCB
	General < 80 years	< 140/90	Blacks: thiazide diuretic or CCB
JNC8 (2014)	General ≥ 60 years	< 150/90	Nonblacks: thiazide diuretic, ACE inhibitor, ARB, or CCB
	General < 60 years	< 140/90	Blacks: thiazide diuretic or CCB
	Patients with diabetes	< 140/90	
	Patients with CKD	< 140/90	ACE inhibitor or ARB
European Society of HTN + Society of Cardiology (2013)	General ≥ 80 years	< 150/90	Thiazide diuretic, beta blocker, CCB, ACE inhibitor, or ARB
	General < 80 years	< 140/90	
	Patients with diabetes	< 140/85	ACE inhibitor or ARB
	Patients with CKD without proteinuria	< 140/90	ACE inhibitor or ARB
	Patients with CKD with proteinuria	< 130/90	
Kidney Disease: IGO (2012)	Patients with CKD without proteinuria	≤ 140/90	ACE inhibitor or ARB
	Patients with CKD with proteinuria	≤ 130/80	

Follow Up Information

Patient scheduled with local family physician for 3 days in the future but fails to keep appointment.

Labs ordered for 2 weeks in the future are not completed/returned to urgent care or new PCP.

Patient does not respond to outreach efforts by urgent care staff.

One Month Later…

Patient presents to urgent care complaining of sprained ankle and requests refill on BP med. States he “got busy at work” and couldn’t complete follow up as scheduled. Phone got disconnected when he didn’t pay his bill. He reports the medication worked “fine” but didn’t check BP at home. BP today is 156/90 and he has not taken his medication since two days ago because he ran out.

What are next steps for this patient?

Wrap Up / Questions

Key Messages:

- Markedly elevated BP with evidence of end-organ damage means you can make the diagnosis of HTN immediately
- Lifestyle modification always first-line recommendation but should be in conjunction with starting medications if significant/severe hypertension present
- Achieving optimal BP control is often dependent on social determinants of health

Questions?

FMX

Adult & Elderly Hypertension PBL Case #2

Jen Brull, MD, FAAFP

FMX

Chief Complaint

42 year old white female, establishing care. Noted elevated blood pressure last week when she checked at the local pharmacy kiosk.

FMX

What further information do you want collected at check-in?

FMX

History of the Present Illness

Patient denies complaints, “just coming to get a doctor” because the kiosk at Walgreens told her that her blood pressure was in the “concerning range.” She does not remember what the actual numbers were, just “high.”

FMX

What criteria must be met to diagnose hypertension?

FMX

Past Medical and Surgical History

No health issues other than recurrent ear infections as a child.

Pregnancy History: G2 P2 LC2

Most recent doctor visit after the birth of her last child, 15 years ago. Reports normal blood pressures during pregnancy.

Surgeries:
Bilateral PE Tubes, placed at age 3
Wisdom Teeth removed at age 14

FMX

Medications / Allergies

NKDA

No medications

No supplements

OTC ibuprofen daily for headaches

FMX

Family History

Father: living, age 65; hypertension, diabetes

Mother: deceased at age 56; CVA

Siblings: living x 2; hypertension, CAD

FMX

Social History

Married x 25 years

Employed as store clerk

Tobacco: current smoker, 10-15 CPD x 30 years

Alcohol: 1-2 beers per week

No history of illicit substance use/abuse

FMX

Which risk factors do you identify for this patient?

FMX

Review of Symptoms

She does note headaches and blurred vision when specifically asked.

Negative for chest pain, shortness of air, edema. No recent weight gain. Otherwise negative ROS.

FMX

Physical Examination

Height 64” Weight 167 BMI 28.7
Pulse 82, Respirations 14, Blood Pressure 164/96

General: WNWD overweight WF NAD A&O x 3
CV: RRR, no murmurs, normal PMI
Chest: no respiratory distress, lungs clear bilaterally
Abdomen: soft, nontender, NABS
Extremities: trace edema, no cyanosis

FMX

What are your diagnoses today?

FMX

What are next steps for this patient?

FMX

Follow Up Visit #1

Patient returns for a second visit 2 weeks after her initial appointment. She has been working on walking daily, avoiding salt and has lost two pounds. She continues to smoke, citing stressors in her life. She got a blood pressure monitor and reports that SBP has been between 142 and 180, DBP between 88 and 96. In the office, her BP is 156/90 after seated for five minutes.

FMX

What are your diagnoses today?

FMX

What are next steps for this patient?

FMX

Ambulatory BP Monitoring

Patient wears monitor x 48 hours, instructed not to take BP manually, monitor l

SBP range 122-148

DBP range 70-94

FMX

Does your diagnosis change?

FMX

What are next steps for this patient?

FMX

Follow Up Visit #2

Patient returns after starting medication, reports no side effects but notes that blood pressures measured at home remain elevated. She does report that her headaches are improved, however, and she is only taking OTC medications once weekly now. BP in the office is 146/82.

FMX

What are next steps for this patient?

FMX

Wrap Up / Questions

Key Messages:

- TWO abnormal measurements at TWO visits, at least ONE week apart to make the diagnosis
- Lifestyle modification, including tobacco cessation, always first-line recommendation
- Ambulatory BP monitoring can be effective adjunct in diagnosing hypertension
- Continue to adjust or add medication until blood pressure is controlled

Questions?

FMX

Contact Information

Jen Brull, MD
Plainville, KS

Twitter: @mrsbrull
Facebook: /mrsbrull

FMX

Associated Session

- Adult and Elderly Hypertension: What's Next?

FMX

Interested in More CME on this topic?
aafp.org/fmx-cardio

FMX