EVIDENCE-BASED APPROACHES: IMC Case on hypertension and hyperlipidemia

A 45 year old African American man presents to the IMC with a chief complaint of "my pressure is high". Apparently he recently was at a health fair and was told his blood pressure was "very high". His daughter who is in nursing school subsequently checked his blood pressure and told him that he needs to be seen by a doctor, and referred him to the IMC. The patient states he really feels "great" and would not be at the IMC if his daughter did not force him to be. He denies any headache, fatigue, dizziness, chest pain, palpitations, cough, wheeze, sob, abdominal pain, n/v/d/c, melena, hematochezia, lower leg edema, dysuria, hematuria, rash, history of seizure or stroke, or numbness or weakness in arms or legs. He does admit to using an over-the-counter medication for runny nose and congestion (He believes he is allergic to his new dog).

Past Medical Hx: Allergic rhinitis
Past Surgical Hx: Tonsillectomy (at age 6)
Allergies: NKDA
Medications: Claritin-D 1 PO BID
Social Hx: Smokes 1 ppd x 25 years; admits to 4 twelve ounce beers daily; strictly denies illicits; works for cable company as installation man; diet is meat and potatoes
Family Hx: Mother alive age 80 with "low thyroid", Father deceased age 54 with "MI"

ROS: As Above

Vitals: Temp 97.1 HR 88 BP 186/100 Resp 14 Pulse Ox 98%RA Ht 68 in Wt 260#BMI 39.5 kg/m2
Gen: A&OX3, NAD, Pleasant, Obese
HEENT: PERRL, EOMI, oral mucosa moist, unable to visualize posterior pharynx, but no oral lesions noted; turbinates pink and moist
Neck: Supple, no JVD, no nodes, no thyromegaly
Heart: RRR no murmur, gallop, or rub
Lungs: CTA bilaterally; no wheeze, rhonchi, rale
Abdomen: Soft, Obese, + BS, NT/ND, no mass, hernia, or bruit
Extremities: no edema, no clubbing, all distal pulses palpable, no lesions or rashes
Neuro: Grossly intact

Please Use the 2017 Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults and other linked materials to answer the following questions.
http://www.onlinejacc.org/content/early/2017/11/04/j.jacc.2017.11.006?_ga=2.246279300.1486998482.1512137551-478835212.15088039512017

You obtain the previous BP readings from the patient's daughter (168/96, 142/98), the MA tells you she used the regular cuff to obtain the reading.

1. What is the appropriate procedure to get an accurate blood pressure measurement in the office (preparation, positioning of patient, cuff placement, rate of deflation) *see table 8 checklist page 28?

2. Should the large cuff be utilized?

3. What are the recommendations for at home monitoring? See recommendation 4.2 and table 10

You follow appropriate procedures and obtain a blood pressure of 138/96 in right arm and 142/98, 138/88 in left arm.

4. What blood pressure will we use to guide treatment? What is the appropriate classification of this gentlemen's blood pressure (what stage is it)? (see table 8; figure 4)

5. If his blood pressure continues to increase, does this lead to an even higher risk of heart attack, heart failure, stroke or kidney disease? (see 2.1-2.4)

6. What laboratory tests or additional studies are indicated at this time (see 7.1)?

Most of the patient's labs are all within normal limits. His EKG shows NSR with LVH. His fasting lipid panel reveals a total cholesterol of 220, LDL of 150, HDL of 40 and triglycerides of 150.

7. What lifestyle modifications can be advised to your patient, and what is the expected blood pressure change for each of these modifications? (see table 15)

8. Using link: http://tools.acc.org/ASCVD-Risk-Estimator-Plus/#!/calculate/estimate/
    a. What is the patient's current ASCVD risk score?
    b. What would be the expected decrease in stroke, MI and CHF in percentages if the patient is started on appropriate antihypertensive therapy? Stopped smoking? (see therapy impact tab)

9. Would you advise the patient to discontinue his Claritin D (if so, would you recommend any other treatment)? (not in guideline, use your drug reference database to answer)

10. Do you recommend the patient begin pharmacological treatment for hypertension at this time? Why or why not (see 8.1.2)?

The patient tells you his cable job does not provide him with prescription medication coverage.

11. What antihypertensive medication would you start this patient on at this time?(see table 18; 8.1.6; 10.1.1)

12. Would your choice change if he had diabetes mellitus? (see 9.6)

13. What antihypertensive medication would you start if he was white or Hispanic (see 10.1.1)?

14. What if he had chronic kidney disease (CKD) see 9.3?

15. Would you start with one medication, two medications, or combo medication (two drugs in one tablet) see 8.1.6.1?

16. When would you recommend follow-up for this patient?(see figure 4 and 8.1.3; see also IMC Hypertension flow sheets)

17. What is the blood pressure goal for our patient? When would we consider a different goal? (see 8.1.5 and sections 9,10)

18. Would you order any follow-up blood work after the patient starts the medication? (not in guideline, use a drug reference database to answer)

You see the patient 4 months later (you had night float, ICU, then CCU). He states that since his last visit with you, he has seen Denise Boville, CNP on two occasions. He has also quit drinking alcohol, has lost 10 pounds on his DASH diet and 150 minutes exercise weekly. Denise noted his blood pressure was still not at goal, and has titrated amlodipine to 10 mg daily, HCTZ to 25 mg daily, and added lisinopril 40 mg daily. He states he takes his medications exactly as prescribed. His blood pressure today is 132/86. He asks what your thoughts are on "the mouth piece they are selling on TV to "cure snoring".

19. Does the patient have resistant hypertension? (see 11.1)

20. What are some causes of pseudoresistance? (see 4.4; 11.1)

21. What are some medications that can interfere with blood pressure control? (see 5.4.1)

22. What are some of the secondary causes of hypertension? Which are common and which are uncommon? (see table 13)

23. What further workup would you complete on this patient?

(Bonus question) Your patient has a sleep study and is found to have severe sleep apnea. After treatment is begun with BiPap hs, the patient states he has never felt better. His blood pressure is now 124/72. Repeat labs are unremarkable, except his lipid panel shows that now (after 6 months of exercise, wt loss, change in diet) his total cholesterol is 200, HDL 42, TG 150, LDL 128. The patient unfortunately has not quit smoking. Utilize the following links for these questions:
http://www.onlinejacc.org/content/early/2018/11/02/j.jacc.2018.11.003?_ga=2.255200203.2128405499.1548969396-1737575934.1548969396

https://www.acc.org/~/media/Non-Clinical/Files-PDFs-Excel-MS-Word-etc/Guidelines/2018/Guidelines-Made-Simple-Tool-2018-Cholesterol.pdf

24. Should he be started on a statin at this time? What statin should he be started on?

25. What is the goal? When should a second agent be initiated? When would you check labs?

26. What if he had diabetes?