

RESISTANT HYPERTENSION

Michael Harma, M.D. and Stephen Huot, M.D., Ph.D.

Week 5

Educational Objectives:

1. Define the clinical criteria for resistant hypertension
2. Describe the most common causes of difficult to control blood pressure and how and when to work them up
3. Effectively apply strategies for treating resistant hypertension

CASE ONE:

A 49-year-old Caucasian man who recently moved to the area presents to your office to establish care. He has a medical history significant only for hypertension, which has been treated for “many years” but has always been challenging to bring under control. His regimen consists of Lisinopril 80 mg daily, HCTZ 50 mg daily, and Norvasc 10 mg daily. You quickly flip through the records he has brought with him which indicate that his blood pressure has always been in the hypertensive range, despite a variety of medication combinations, including the current regimen which he has been taking for the last two years. The patient is able to name his medications, and their doses, and what time of day he takes them. He monitors his blood pressure at home, and the usual readings are 150-160 mmHg/90 – 98 mmHg. Electrolytes, BUN, and creatinine have been normal.

Current vital signs:

Ht 5' 11' Wt 214 lbs (BMI 29.8) BP: 162/100 HR: 62

Questions:

1. **What is the classification of blood pressure in adults? How is resistant hypertension defined? Does your patient have resistant hypertension?**

2. **What are some things to consider, during the patient interview and exam, to help identify potential causes for his difficult to control blood pressure?**

CASE ONE CONTINUED:

According to the patient, he fills his prescriptions on time each month, and he and his wife confirm that he takes all medications daily. He has some fatigue, mostly in the middle of the day. He does snore at night but not enough to prevent his wife from being able to sleep. He does not add salt to his diet, eats out twice weekly, does not exercise regularly, and is employed as an accountant and sits at his desk throughout most of the day. He does not take any regular over the counter medications, has never smoked, and does not drink alcohol or use recreational drugs.

Physical exam:

Blood Pressure (seated)

Right arm: 162/100 mmHg Left arm: 160/100 mmHg

Fundoscopy, cardiovascular, and extremity examinations are all normal.

3. Are there any diagnostic studies that you would like to consider at this point?

4. If the evaluation is unrevealing, what treatment options can be considered?

Primary References:

1. Ram CVS. Review of Resistant Hypertension. 2006; 8: 398-402.
2. Park J, Campese V. Clinical characteristics of resistant hypertension: the importance of compliance and the role of diagnostic evaluation in delineating pathogenesis. *The Journal of Clinical Hypertension*. 2007; 9(Vol. 1 Suppl 1): 7-12.

Additional Reference:

3. Efficacy of low-dose spironolactone in subjects with resistant hypertension. *American Journal of Hypertension*. 2003; 16: 925-930.