8-10-2017

Hypertensive Urgency

Jed Grant
University of the Pacific, jgrant@pacific.edu

Follow this and additional works at: https://scholarlycommons.pacific.edu/pa-facpres

Recommended Citation
Grant, Jed, "Hypertensive Urgency" (2017). Physician Assistant Program Faculty Presentations. 2.
https://scholarlycommons.pacific.edu/pa-facpres/2

This Conference Presentation is brought to you for free and open access by the Arthur A. Dugoni School of Dentistry at Scholarly Commons. It has been accepted for inclusion in Physician Assistant Program Faculty Presentations by an authorized administrator of Scholarly Commons. For more information, please contact mgibney@pacific.edu.
Hypertensive Urgency?
Jed Grant, MPAS, PA-C
University of the Pacific PA Program
Sacramento, CA

Objectives

• Participants in this session will learn:
1. To differentiate hypertensive urgency from hypertensive emergency
2. To describe the appropriate work-up of asymptomatic hypertension
3. To develop an appropriate treatment plan for hypertensive urgency

Definitions

• Hypertension
  • 140/90mm Hg
• Hypertensive Urgency
  • >140/90mm Hg but <180/110mm Hg
• Hypertensive Crisis/Emergency
  • Hypertension with acute end organ damage
  • No absolute values
  • Poor correlation between BP numbers and end organ damage
Chronic Hypertension

- 90-95% Essential
- Secondary hypertension
  - Sudden onset
  - Onset < age 30 without family history of HTN
  - Previously controlled and suddenly out of control

Secondary Hypertension

- Medications
  - OCP/Hormones, NSAIDS, sympathomimetics, antidepressants, steroids
- Foods/Drugs
  - Caffeine, black licorice, illicit drugs
- Systemic causes
  - AKI/CKD, renal artery stenosis, thyroid dysfunction, Cushing syndrome, Coarctation of the Aorta, obstructive sleep apnea, and pheochromocytoma

Acute Hypertension

- Usually underlying chronic hypertension with situational and transient elevation due to
  - Setting
  - Procedure
  - Anxiety
  - Illness
  - Injury
  - Drugs
  - NON-COMPLIANCE (75%)
- Time heals all wounds... specifically 90 minutes of time for BP.
The problem

• Chronic hypertension is treated with gradual progression to goal over several months
  • PAs are experts at managing this
• Acute hypertension with ongoing injury to end organs is a true emergency
  • Send to the ER - broad work up based on organ involved
• Acute hypertension without end organ damage
  • Clinical conundrum
  • HOW DO I KNOW IF THERE IS END ORGAN DAMAGE? WHAT DO I DO?

End organ damage?

• History
• Physical Exam
  • Hypertensive urgency has a normal history and physical exam related to end organ signs and symptoms
    • If abnormal it is hypertensive emergency
• Screening studies?

CASE

• 49 yo male sent to ED by primary care provider for marked elevation of BP. Appointment was for medication refill on his Losartan. No complaints.
• PMHx: HTN, COPD
• Meds: Losartan, Albuterol MDI, Ipratropium Br MDI
• NKDA
• SocHx: TOB: 18 pack year. Occasional ETOH. No drugs.
• BP: 180/110mm Hg P: 77 R: 14 T: 37 tymp. Sao2 99% RA
• What do you want to do?
CASE: What to do?

- More Hx (ROS)
- Physical Exam
- Observe
- Diagnostic Studies
- Give medication
  - Clonidine
  - Lisinopril
  - Labetalol
  - Losartan

History and Physical Exam

- ROS focused on vulnerable end organs
  - Vision changes
  - Confusion, HA, irritability
  - Hematuria or swelling
  - Chest pain, SOB, abdominal or low back pain, dizziness, syncope
- PE is focused on end organs
  - Eyes: retinal hemorrhages, papilledema
  - Brain: AMS, focal findings
  - Chest: Friction rubs, edema, rales
  - Abdomen/Retroperineum: Aorta, bruits

**ANY POSITIVE FINDINGS SHOULD PROMPT DIAGNOSTIC EVALUATION OF INVOLVED END ORGAN**

Observation

- IF there are not any concerning signs or symptoms the patient should be observed for 90 minutes and then have the BP rechecked.
- IF the BP recheck is <180/110mm Hg, can be discharged home
  - 94% of these patients have underlying chronic HTN.
- IF the patient missed regular medications, may give usual dose of meds at start of observation
- IF the patient is still >180/110mm Hg after observation, what do you do?
Screening for End Organ Damage

- EKG
- CBC
- Chem 7/BMP
- UA
- CXR
- CT brain
- CT chest

Treat?

- What is the goal of treatment in the ED?
  - Patients admitted or treated outpatient have same outcomes
  - No acute risk for end organ injury
  - Most patients will have uncontrolled HTN in 6 months.
  - PARADOXICAL RISK of brain injury if lowered to goal acutely
  - Acute treatment of hypotensive urgency should be approached with great caution
    - One dose of patient’s usually HTN medication in ED, Rx for more with close outpatient FU if B/P >180/110mm Hg
  - What to do for those not previously on a medication?
Treat?

• What is the goal of treatment?
• Antihypertensive naïve patients may be placed on medication with close outpatient follow-up within 1 week to one month if >180/110mm Hg.
  • Clonidine
  • Furosemide
  • Lisinopril
  • Labetalol
  • Losartan
  • Nifedipine

CASE

• 49 yo male sent to ED by primary care provider for marked elevation of BP. Appointment was for medication refill on his Losartan. No complaints.
• PMHx: HTN, COPD
• Meds: Losartan, Albuterol MDI, Ipratropium Br MDI
• NKDA
• SocHx: TOB: 18 pack year. Occasional ETOL. No drugs.
• BP: 180/110mm Hg P: 77 R: 14 T: 37 tym. SaO2 99% RA
• ROS and PE are normal. What do you want to do?

CASE: What to do?

• Observe
• Diagnostic Studies
• Give medication?
  • Clonidine
  • Lisinopril
  • Labetalol
  • Losartan
Summary

• Hypertensive urgency (180/110 mm Hg) has a very low risk of acute end organ damage
  • It most likely represents a short term acute on chronic HTN
  • Acute treatment is not usually necessary and may be harmful
    • Several studies showed no HTN related adverse events occurred when delaying treatment out to six months 3,10,12
  • Most patients will return to baseline with observation for 90 min.
  • Routine screening of UA, chest radiograph, and ECG were shown to be of no benefit and should not be routinely performed

Summary

• Black and indigent patients, or those with poor access to care are at increased risk of end organ damage.
  • Screening BMP/Chem7 may be of some use in these patients and those with BP >180/110 mm Hg after 90 minutes of observation
  • Most of patients are safe to discharge with outpatient Rx and follow up with primary care provider within one week to one month.
  • In the primary care setting it is safe to discharge a patient home with BP as high as 180/100 mm Hg as long as they do not have any symptoms of signs of end organ damage.
  • Should have short term follow up and gradually be brought to goal
Sources