



7/29/23 Management Reasoning VMR with @CPSolvers

“One life, so many dreams” Case Discussant: Jasdeep Bajwa (@JasBajwa18) and Seyma (@Seymss15)



Case 1:

45yM w/ a history of HTN presents to the clinic for a BP follow up. Patient has been taking [antihypertensive medications](#) for the past 2 years, but his BP has remained uncontrolled despite adherence to the prescribed regimen (ACE-I and recently prescribed HCTZ). **In office BP is 160/100, rest of his exam was normal.** CMP was normal, except for a **new hypokalemia of 3.1 mEq/L (3.5-5.0 mEq/L).**

Assessment of this patient:

Review meds and compliance. H&P. Confirm resistant HTN. Rule out secondary cases. New Hypokalemia + poorly controlled BP = think of hyperaldosteronism

Further workup: Aldo/renin ratio, confirm +ive screening then imaging

Treatment of HTN: Surgical, spironolactone if poor candidate

Case 2:

38-year-old female with [episodic headaches, palpitations and diaphoresis](#) presents with [fevers and confusion](#). T 41C, BP 230/135, HR 130s, RR normal. EKG revealed sinus tachycardia. SCR is **2.4** (Baseline: 1.0).

Assessment of this patient: normal TSH, plasma & urine metanephrine elevated, diagnosed with with paraganglioma

Further workup: TSH, Serum Beta-Hcg, Plasma and urine metanephrines. CT A/P

Treatment of HTN:

Phentolamine, Nicardipine

Goal to reduce BP by 25% within 1st hour except in certain conditions. AVOID Beta-blockers as the initial therapy as this can lead to unopposed alpha-adrenergic activity.

Case 3:

68yM with HTN presents with [nausea/vomiting](#) for the last 2 days. BP is **200/130**. Home meds include **Lisinopril 40 mg, Amlodipine 10 mg and HCTZ 12.5 mg** daily. He has been having a difficult time adhering to his medications.

1. What additional history and exam data would you want to collect?

Look for end organ damage

Simple n/v, just headaches = do not necessarily means end organ damage; could just be HTN urgency

2. What investigations would you order?

3. Do you think this patient has Hypertensive Emergency?

4. What would you do for this patient?

5. What if this patient did have evidence of end organ damage, how would you control their blood pressure?

Resistant HTN:

= failure to achieve goal blood pressure while receiving a 3-drug regimen at optimal doses that includes a diuretic

(Hypertensive urgency):

= acute significant elevation of BP, typically systolic BP greater than or equal to 180 mmHg and/or diastolic BP greater than or equal to 120 mmHg WITHOUT signs of new end-organ damage

Hypertensive emergency:

= acute significant elevation of BP, typically systolic BP greater than or equal to 180 mmHg and/or diastolic BP greater than or equal to 120 mmHg WITH signs of new end-organ damage

Signs of end organ damage:

→ BARKH – 🧠, Arteries, Retina 👁, Kidneys and Heart

Teaching Points:

1. Definition of Resistant HTN/Hypertensive emergency
2. Causes of resistant HTN
3. To confidently work up and manage cases of resistant hypertension in the outpatient and/or inpatient setting.
4. Initial approach in the management of hypertensive urgency and emergency

Case 1 Pearls: Most patients w/ primary aldo has normal K. 40% has low K. [Thiazide](#) can cause hypoK, range between 10-50% drop, shouldn't be a dramatic drop. In that situation look for another cause!

[Aldosterone/renin ratio \(ARR\)](#) → Low salt diet, pregnancy, spironolactone, ACE-I/ARBs can produce false negatives.

Case 2 Pearls: Young women look forward: HELLP, Pre eclampsia (even 6 weeks postpartum you can have preeclampsia).

Goal is to reduce SBP to < 140 mmHg in the first hour. Avoid Beta blockers as initial treatment!!! As this can lead to unopposed alpha-adrenergic activity.

- Excess release of catecholamines can be from a [Pheo](#) (adrenal tumor) or [paraganglioma](#) (extra-adrenal).

- Patients can present w/ orthostatic [hypotension/syncope](#) → these tumors release large amounts of adrenaline and non-adrenaline intermittently. When these hormones are released into the blood they can lead to a sudden rise in BP. However, when the tumor stops releasing these hormones, the BP drops dramatically, causing a sudden decrease in blood flow to the brain, resulting in syncope.

- Measurement of fractionated metanephrine is the first step when suspecting pheo. **Diagnosis:** 2x times the ULN. Mild elevations can occur with TCA, antipsychotic agents, SSRI and acute illness.

- If CT (non-contrast) attenuation is 10 Hounsfield units or less → Rules out the Dx of pheo (lipid rich mass)

Case 3 Pearls: N-V + HTN = HTN emergency? No. High BP can cause N-V and headaches.

Emergency HTN Treatment: Heart Failure: Nitroglycerin / Stroke: Labetalol / Aortic dissection: Esmolol / AKI: Nicardipine or Fenoldolpan (increases the perfusion to kidneys while reducing the BP).



7//23 Morning Report with @CPSolvers



“One life, so many dreams” Case Presenter: (@) Case Discussants: (@) and (@)

<p>CC: Record</p> <p>HPI:</p>		<p>Vitals: T: HR: BP: RR: SpO2</p> <p>Exam:</p> <p>Gen:</p> <p>HEENT:</p> <p>CV:</p> <p>Pulm:</p> <p>Abd:</p> <p>Neuro:</p> <p>Extremities/skin:</p>	<p>Problem Representation:</p>
<p>PMH:</p> <p>Meds:</p> <p>Fam Hx:</p> <p>Soc Hx:</p> <p>Health-Related Behaviors:</p> <p>Allergies:</p>		<p>Notable Labs & Imaging:</p> <p>Hematology:</p> <p>WBC: Hgb: Plt:</p> <p>Chemistry:</p> <p>Na: K: Cl: CO2: BUN: Cr: glucose: Ca: Phos: Mag:</p> <p>AST: ALT: Alk-P: T. Bili: Albumin:</p> <p>Imaging:</p> <p>EKG:</p> <p>CXR:</p>	<p>Teaching Points ():</p> <p>Record</p>