Hypertension in Inpatient Psychiatry

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Introduction: Hypertension is fairly common in patients admitted to psychiatric units. Causes range from transient anxiety, to substance withdrawal, to cardiovascular issues. Your job as a psychiatric provider is to assess whether there is an urgent situation needing immediate treatment or an issue that can wait for your medical colleagues to do a thorough evaluation and come up with a treatment plan. Occasionally, depending on your training and comfort level, you can also initiate treatment for moderate hypertension, and we suggest an approach should you decide to do so.

Measurement and Actions if Hypertension is Severe

- **Definition of hypertension**: While definitions vary, the standard definition of hypertension is a sustained blood pressure above 140/90.
- **Was the reading accurate?** Many hospitals use automated cuffs, which are inaccurate in 10-15% of patients, so ask nursing to confirm with a manual reading. In addition, you should readings on at least two separate occasions with the patient is sitting and calm before concluding that this is indeed hypertension.
- **Hypertensive emergency**: Your first job is to determine if this is a medical emergency. Typically if the systolic >180 mm Hg and/or diastolic >120 mm Hg, you are going to want to consult medicine immediately, especially if there are any accompanying symptoms suggesting potential heart, kidney or brain damage like chest pain, shortness of breath, back pain, numbness/weakness, change in vision, difficulty speaking, or severe headache.
    - While awaiting transfer to medicine, you can administer Clonidine: 0.1-0.2 mg orally. It should work within 20-30 minutes.
    - In cases where anxiety is contributing to elevated blood pressure, administer lorazepam (Ativan) IM 1-2 mg. This should work within 30-60 minutes.

Assessment and Management of Non-urgent Hypertension:

- **Common causes of hypertension in psychiatric units**
    - Stress/agitation due to underlying psychiatric illness
    - "Essential" hypertension (cause unknown) in 90% of patients
    - Obesity
    - Chronic alcohol use
    - Methamphetamine or cocaine use
    - Withdrawal from alcohol, benzodiazepines, or opiates
    - Obstructive sleep apnea
    - Medications that can cause hypertension:
        - Venlafaxine
        - Duloxetine
        - Bupropion at higher doses
        - Amphetamines (especially Adderall)
        - NSAIDs
        - Corticosteroids
        - Anabolic steroids

    - Oral contraceptives

- **Evaluation**
  - History: Ask your patient if they have a history of any of the typical causes listed above. Also inquire about a history of cardiovascular or kidney disease.
  - Assess for the following symptoms:
    - Headache
    - Chest pain
    - Shortness of breath
    - Dizziness or lightheadedness
    - Nausea or vomiting
    - Palpitations
    - Nosebleeds
    - Neurological symptoms such as numbness or weakness, vision changes, or difficulty speaking
    - Swelling in the legs or feet
  - All these symptoms can indicate serious medical conditions requiring prompt attention.
- **Psychiatric Treatment**
  - If your history indicates that the cause may be related to a psychiatric or substance use issue, begin standard psychiatric treatment and monitor daily vitals for improvement in blood pressure. If the hypertension is moderate and there are no concerning medical symptoms, no medical consultation is needed right away.
  - If hypertension persists after psychiatric symptoms have improved, consult medicine for further evaluation, or if the patient is ready for discharge, refer to a primary care physician for follow-up.

- **Medical workup and treatment**
  - If you order a medical consult for evaluation and treatment of moderate hypertension (or if you choose to do this medical workup yourself), here is a common protocol for assessment and initial treatment.
  - **Medical workup**
    - Lipid profile to screen for dyslipidemia and risk for cardiovascular disease
    - Electrolytes and kidney function
    - Fasting glucose or hemoglobin A1c to screen for diabetes mellitus
    - Urinalysis to screen for proteinuria (sign of renal impairment)
    - Electrocardiogram to screen for left ventricular hypertrophy or prior infarction
  - **Treatment of essential hypertension**
    - In most cases, a specific treatable cause is not found, so the treatment involves targeting blood pressure with specific meds and recommending lifestyle changes
      - **Medications**: The following are all reasonable options for initial treatment of uncomplicated hypertension. If these don't work, there are various protocols for escalating treatment by adding a second or third medication, but this is typically done

as an outpatient, and the decision will be made by a primary care provider or a cardiologist.

  - Thiazide Diuretics: Hydrochlorothiazide, start at 12.5 mg daily, maximum 25 mg daily. This is a good initial choice for most patients except those with impaired kidney function (e.g., GFR <30).
  - ACE Inhibitors: Lisinopril, start at 10 mg daily, can increase up to 40 mg daily. Good choice for patients with diabetes or heart failure.
  - ARBs: Losartan, start at 25 mg daily, can increase to 100 mg daily. Good choice for patients who can't tolerate the common side effects from ACE inhibitors, like a persistent cough.
  - Calcium Channel Blockers: Amlodipine, start at 5 mg daily, can be increased to 10 mg daily. Good choice for patients with angina or peripheral artery disease.
  - Beta-Blockers: Metoprolol, start at 25 mg twice daily, can be increased to 100 mg twice daily. Good choice for patients with tachycardia or a history of myocardial infarction, as it reduces heart rate and decreases the workload on the heart. Don't use for patients with asthma due to the risk of bronchoconstriction.

- **Lifestyle Modifications on the Inpatient Unit**:
  - Place patients on a heart healthy diet that is low in sodium, saturated fat, and cholesterol.
  - Encourage patients to engage in regular physical activity on the unit, such as walking or light stretching exercises, but to avoid strenuous activities.