

## Hypertensive Crisis

<p><u>Patho -</u> A hypertensive crisis can occur when a rapidly increasing blood pressure resulting in shearing of the endothelial surface due to turbulent blood flow in the blood vessels leading to damage to vascular damage and release of vasoconstricting agents.</p> <p><u>Causes -</u> Acute aortic dissection, exacerbation of chronic hypertension, head injury, MAOIs taken with tyramine foods, preeclampsia, rebound hypertension, recreational drug use: cocaine and amphetamines.</p>	<p><u>Hypertensive Emergency -</u> Blood pressure is severely elevated (<b>SBP&gt;180/DBP&gt;120</b>), that also <b>involves evidence of target organ damage</b> (including neuro, cardiac, or renal injury). This is <b>a medical emergency!</b> Hypertensive emergencies can cause malignant hypertension → Increased ICP. Can also cause renal insufficiency → Renal failure(↑ BUN, Cr) Hypertensive emergency can also be caused by cardiac issues → CHF, MI. (↑ Troponin, Electrolyte imbalances - K, Na)</p>
<p><u>Hypertensive Urgency -</u> A hypertensive urgency is when blood pressure is severely elevated (<b>SBP&gt;180/DBP&gt;120</b>) with no target organ damage = No abnormal BUN/Cr, Troponin, AST/ALT, Urinalysis.</p>	<p><u>Hypertensive Encephalopathy -</u> Hypertensive encephalopathy occurs when there is a sudden significant increase in blood pressure from baseline, that is associated with severe headache, N/V, seizures, confusion, visual disturbances, and coma.</p>
<p><u>Role of ED nurse -</u></p> <ul style="list-style-type: none"> <li>• Assessment - edema? dizziness? headache? chest pain? altered mental status? decreased urinary output?</li> <li>• Obtain health history – history of HTN? Any other conditions?</li> <li>• Establish IV access - if not done by EMS.</li> <li>• Medications - what medication(s) do they currently take, dosage, sticking to regimen, last time they took the medication(s)?</li> <li>• Frequent Blood pressures(Q5-15 minutes), Q2-3-minute BP during initial BP administration of medications</li> <li>• EKG and continuous cardiac monitoring</li> <li>• Spo2 monitoring, apply/titrate O2 if needed for Spo2 &lt;92%</li> <li>• Draw labs to determine/monitor organ function: BUN/Cr, Troponin, H&amp;H, Platelets, Potassium, Sodium, AST/ALT, Uric acid, Urinalysis.</li> <li>• Medication administration as ordered → Be sure to follow order closely, do not lower MAP or BP too quickly. During the first hour of treatment, the MAP should not be decreased by greater than 20-25% or to a MAP of 110-115.</li> </ul>	<p><u>Treatment -</u> <b>Hypertensive Emergency</b> - the following drugs could be given. They will be given IV and be titrated according to the patient's MAP, blood pressure, and doctor's order.</p> <ul style="list-style-type: none"> <li>• <u>Nitrates</u>: sodium nitroprusside, nitroglycerin.</li> <li>• <u>Vasodilators</u>: fenoldopam, nicardipine.</li> <li>• <u>Adrenergic inhibitors</u>: phentolamine, labetalol, esmolol, metoprolol.</li> <li>• <u>Calcium channel blockers</u>: clevidipine, nicardipine</li> </ul> <p><b>Hypertensive Urgency</b></p> <ul style="list-style-type: none"> <li>• Does not always require IV drug therapy. Oral antihypertensive therapy can be used.</li> <li>• Treatment is determined based on if patient has a history of hypertension.</li> <li>• Other contributing factors – anxiety, stress, pain.</li> <li>• Most common PO drugs include Captopril, labetalol, clonidine, and amlodipine.</li> <li>• Non-pharmacological treatments are often used – allow to sit in a dark, quiet environment for 20-30 minutes then recheck BP.</li> <li>• Discuss any stress or anxiety that can be contributing to high BP.</li> </ul>
<p><u>Prevention/Education</u> – Adherence to medication regimen, Side effects of antihypertensive medications: dizziness, dry mouth, palpitations, orthostatic hypotension, Take BP daily in morning, prior to taking medications, Signs and symptoms of hypertension: HA, vision changes, chest pain, dizziness, anxiety, dyspnea, Routine doctors' visits to PCP and cardiologist, Lifestyle modifications: exercise, low-sodium diet, limit alcohol intake, decrease stress.</p>	

