KPCO Adult Management of Hypertensive Crisis for Providers

SBP ≥ 180 and/or DBP ≥ 110*

*Absolute level of BP is not as important as the evidence of vascular end-organ damage to differentiate between a hypertensive urgency and emergency.

** NO need to treat immediately with short acting anti-HTN medication

**SEVERE HTN**
- Asymptomatic or mild symptoms i.e. mild headache, anxiety
- Initiate, restart or adjust antihypertensive meds according to Adult HTN Management Algorithm**

**HYPERTENSION URGENCY**
- Significant symptoms—i.e. severe headache, dyspnea, and edema
- NO signs of target organ damage (Check stat Chem 7, EKG)
  Patient may be managed in an out-patient setting.
- Monitor in clinic for effect of short-acting medication.
- If symptoms or BP not improving within 2 hours, sx worsening, or clinic is unable to provide support, send patient to ED.
- If symptoms and BP improve with short acting options below, go to steps listed in “Severe HTN” box.
- Goal: Reduction in symptoms with modest BP improvement

**HYPERTENSION EMERGENCY**
- Signs of LIFE THREATENING TARGET ORGAN DAMAGE***
  - Initiate emergency protocol (IV access, oxygen etc)
  - Call 3099 or 911 to arrange Emergency Department transport.

*** could include but not limited to: encephalopathy, acute MI, stroke, dissecting aortic aneurysm, and acute renal failure

Short-Acting Oral Medication Options (Do Not Use If Asymptomatic)

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dose</th>
<th>Onset (min)</th>
<th>Duration Of Action</th>
<th>Response Rate</th>
<th>Caution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clonidine</td>
<td>0.1 mg PO x 1</td>
<td>30-60</td>
<td>6-8 hours</td>
<td>79-100%</td>
<td>Sedation, dry mouth, dizziness, rebound HTN following abrupt withdrawal</td>
</tr>
<tr>
<td></td>
<td>*available in clinic</td>
<td>If no change in 60 minute try one of the following options</td>
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<tr>
<td>Captopril</td>
<td>25 mg PO x 1</td>
<td>15-30</td>
<td>4-6 hours</td>
<td>90-95%</td>
<td>Volume depletion, bilateral renal artery stenosis</td>
</tr>
<tr>
<td></td>
<td>*obtain in pharmacy</td>
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<tr>
<td>Labetalol</td>
<td>100 mg PO x 1</td>
<td>30-120</td>
<td>6-8 hours</td>
<td>68-94%</td>
<td>Bronchospasm, COPD, CHF, bradycardia, heart block</td>
</tr>
<tr>
<td></td>
<td>*obtain in pharmacy</td>
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Medication Selection Considerations:
- Efficacy of various short-acting oral medications is similar and current evidence is insufficient to determine which treatment is most effective in reducing morbidity and mortality. Options above are reflective of best available data and presence in clinic or pharmacy.
- Nifedipine IR is NOT recommended for HTN urgency due to association with severe hypotension, stroke and death.
- Treatment selection should be based on perceived need for urgent blood pressure control, the cause of hypertensive urgency, and concomitant conditions.
- Data has shown aggressive and abrupt BP lowering can be harmful.

Provider Follow Up for all Categories:
- Initiate long-acting medication such as lisinopril/HCTZ 20/25mg (half or whole tab) or re-institute/up-titrate previous long-acting medication as appropriate according to the Adult HTN Management Algorithm.
- Educate patient regarding warning signs which would indicate need for medical re-evaluation.
- Emphasize importance of medication adherence.
- Schedule follow-up in 24-72 hours.

Key Points for Providers:
- Hypertensive emergency is a clinical diagnosis (based on signs and symptoms).
- Most hypertensive urgencies are preceded by a history of non-adherence with antihypertensive therapies.
- Consider rebound from abruptly stopping Beta Blocker medication.
- Consider cocaine or amphetamine related HTN crisis.
- Reinforce daily dietary sodium restriction in patients who might have HTN urgency due to high sodium intake.
- As a general rule, true hypertensive crises are very rare, affecting about 1% of patients with chronic hypertension.
- This is only a guideline and is not meant to serve as a replacement for individual clinical judgment.

Key Points for Care Teams:
- Confirm elevated BP and comply w/ BPA (i.e. repeat after 1 minute), ensure proper technique/cuff size used- notify provider of elevated BP.
- Frequently monitor BP/pulse every 15-30 minutes and notify provider if unable to provide this.
- Perform complete set of vital signs prior to discharge.

January 2012
References:
3. Marik PE and Varon J. Hypertensive Crisis: Challenges and Management

KPCO Hypertension Governance Council
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