Management of Pre and Post Thrombolytic Blood Pressure

Patient identified as an appropriate thrombolytic candidate for treatment of acute ischemic stroke

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BP less than 185/110?

- **No** → Give **labetalol*** 10-20 mg IV x1 STAT; **May repeat x1 if not at goal**
  May start with 5 mg in elderly or low weight

  *If pt has bradycardia or bronchospasm, do not use labetalol, go straight to nicardipine gtt.

  → **BP less than 185/110 within 5 min of IV labetalol x2?**
  - **Yes** → Proceed with thrombolysis administration.
  - **No** → Start **nicardipine IV** at 5 mg/hr; Increase by 2.5 mg/hr every 5 min as needed. Max 15 mg/hr.
    Alternative: Start Clevidipine IV at 1-2 mg/h; Increase by doubling the dose every 2-5 min as needed. Maximum 21 mg/hr.

    → **BP less than 185/110 after titration of nicardipine/ clevidipine?**
    - **Yes** → Proceed with thrombolysis administration.
    - **No** → **Thrombolysis for stroke is contraindicated**
- **Yes** → Proceed with thrombolysis administration.

Proceed with thrombolysis administration.

Maintain BP less than 180/105 *during and for 24 hours after* lytic administration.

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Continue BP checks every 15 min during the infusion and for 2 hours after the infusion is complete for tPA. If further BP management is needed, continue monitoring every 15 min or less.

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Following lytic administration:
If BP remains stable for 2 hours with BP checks every 15 min, checks can be changed to every 30 min x 6 hours.
If BP remains stable for 6 hours with BP checks every 30 min, checks can be changed to every hour x 16 hours.
Frequency of BP checks should be increased to every 15 min if BP is more than 180/105 during the 24 hours post-lytic.

Ischemic stroke patients who are **NOT lytic candidates should <u>NOT</u> have BP lowered unless it is greater than 220/120** <u>unless</u> there is another compelling medical reason to do so, such as acute coronary event, acute heart failure, aortic dissection, or preeclampsia/ eclampsia or if they are more than 48-72 hours post onset of stroke. If BP lowering is required, lowering by 15% is probably safe.[1]

Note: HYPOtension is rare in acute stroke and should prompt rapid assessment for possible etiologies, such as hypovolemia, internal bleeding, myocardial ischemia, aortic dissection, cardiac arrhythmias or sepsis. **Hypotension should be treated immediately** with volume replacement with normal saline, correction of any arrhythmias and consideration of pressors in select patents (discuss with Neurology). Further work up should include STAT cardiac markers & blood cultures. If aortic dissection is suspected, obtain CTA chest prior to thrombolytic administration. **Maintain euvolemia** in all stroke patients (patient's should be given maintenance rate normal saline unless there is a clear contraindication to doing so).

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Reference: Guidelines for the Early Management of Patients with Acute Ischemic Stroke: 2019 Update American Heart Association/American Stroke Association. *Stroke*.2019 (12);50:e344-e418.