HTN

Definitions :

PreHTN : 120-139/80-89 mmHg

HTN stage 1 : 140-159/90-99mmHg

HTN stage 2 : 160/100 or higher

Treatment :

Younger than 60 : if exceeds 140

Older than 60 : 150

Diastolic BP more than 90 regardless of age

Clinical features

- Acute TOD occur in ≥ 180/110
- Heart 27-49%
- Brain 37-45%
- Kidney 8-15%
- Vascular 1-2%
- Eclampsia 2%
- Acute hypertensive retinopathy 1%

Hypertensive encephalopathy

- Severe headache, vomiting, altered mental status, seizure and coma
- Combination of diffuse cerebral dysfunction on clinical examination, normal or nonspecific CT and markedly elevated BP.
- Particularly if ; papilledema, retinal hemorrhage

Diagnostic testing

- Renal dysfunction (metabolic panel, UA)
- Microangiopathic hemolytic anemia (CBC , blood smear)
- Chest pain or shortness of breath (chest X-ray, ECG, cardiac biomarker)
- Advanced cardiovascular imaging
- Brain CT , MRI
- Retinopathy

BP goals in true hypertensive emergency

- Maximal reduction in MAP of 20-25 % withine the first hour
- A goal of 160/100 mmHg by 2 to 6 hours.

ACS and CHF

- Nitroglycerine
- Enalaprilat 0.625-1.25 mg/dose ; max 2.5 mg over 30min

Aortic dissection

- BP < 110mmHg ; HR<60
- Esmolol , labetalol
- Sodium nitroprusside , nicardipine , clevidipine
- Diltiazem, verapamil

Acute ischemic stroke

- Optimal range systolic : 120-200mmHg , diastolic : 81-110
- If thrombolysis ; <180/110
- Otherwise ; >220/120
- 15% gradually over the first 24hours
- Labetalol , nicardipine

ICH

- SBP > 200mmHg or MAP > 150mmHg
- Best outcome SBP : 140-150 mmHg
- Labetalol , nicardipine
- Nimodipine specifically for SAH

Hypertensive encephalopathy

- Reduction in MAP of 30-40%
- Symptom resolution is the best gauge
- Labetalol , nicardipine
- Alternative ; esmolol , enalaprilat

Acute kidney injury

- Increase Cr 0.3mg/dl or more in 48h OR
- 1.5 or more times baseline in 7 days OR
- Less than 0.5ml/kg/hr over 6h
- Fenoldopam
- Alternative : clevidipine , nicardipine
- Labetalol , sodium nitroprusside
- ACEI and dieretics should be avoided

Preeclampsia and eclampsia

- BP>160mmHg
- Magnesium sulfate 6gr initially
- Hydralazine , labetalol
- Nicardipine

Sympathetic crises

- Phentolamine
- Nitroglycerin
- Esmolol + vasodilator

Chronic antihypertensive therapy

- Start thiazide diuretic ; hydrochlorothiazide 25mg daily
- Uncontrolled on monotherapy ; adding a new class of medication
- 1.CCB ; amlodipine 5mg daily
- 2.ACEI ; lisinopril 10-20mg daily , captopril 25mg bid
- 3.ARB ; losartan 50mg daily
- 4.thiazide diuretic if not already on one
- Uncontrolled on dual therapy ; double medication dose up to maximum , or add on third class of medication.