**Antihypertensive Drugs**

Primary hypertension: no known cause

Secondary hypertension: a direct cause of hypertension can be identified

Many antihypertensive drugs lower the blood pressure by vasodilation which causes a decrease in blood pressure

Take blood pressure before administration of any hypertension drug on pulse rate on both arms, never discontinue abruptly to avoid rebound hypertension

Women starting menopause may experience irregular ovulation.

Hold the medication if ongoing assessment reveals increase in BP from baseline

**Angiotensin converting enzyme inhibitors (ACE)**

Suppress the renin-angiotensin-aldosterone system and prevent the activity of ACE which converts angiotensin 1 to angiotensin 2 (vasoconstrictor). Inhibiting the conversion causes Na+ and H2O to not be retained thus sodium and BP will decrease.

**Calcium channel blockers**

Systemic and coronary arteries are influenced by Ca++ moving across cell membranes. CCB act by inhibiting the movement of calcium across the cell membrane of cardiac and arterial muscles. Resulting in less calcium available for nerve impulse transmission and relax blood vessels to increase O2 supply to decrease cardiac workload

**Angiotensin 11 receptor agonist**

Block the binding of angiotensin 2 at various sites on smooth muscle, blocking the vasoconstriction effects of the renin-angiotensin-aldosterone system thus causing a decrease in blood pressure.

**Uses**

Antihypertensive drugs are given to decrease blood pressure, not all work equally well for each patient.

Nitroprusside is given I.V for a hypertensive emergency
**Adverse Reactions (general)**
Orthostatic hypertension, syncope, upper respiratory infections and cough, gastric irritation, tachycardia, proteinuria, neutropenia.

**Contraindications**
ACE1/Angiotensin receptor blockers: HF, salt or volume depletion, bilateral stenosis, angioedema, pregnancy 2nd/3rd trimester due to neonatal death.

Calcium channel blockers: sick sinus syndrome, 2nd/3rd degree atrioventricular block, ventricular dysfunction, cardiogenic shock.

**Precautions**
Electrolyte imbalances, older patients, ACE1 sodium depletion, hypovolemia, coronary or cerebrovascular insufficiency, diuretic therapy, dialysis.

**Calcium channel blocker interactions**
Cimetidine: increase effects of CCB
Theophylline: toxic effects of theophylline
Digoxin: Dig toxicity
Rimfampin: decreased CCB effects

**ACE1 Inhibitors interactions**
NSAID’S: reduced hypertensive effects
Rifampin: decreased ace1 effects
Allopurinol: increase risk of hypersensitivity
Digoxin: decreased dig levels
Loop diuretics: Decrease diuretic effects
Lithium: possible lithium toxicity
Hypoglyemics(insulin) : increase risk of hypoglycemia
Potassium sparing diuretics: elevated potassium levels ( hyperkalemia )

**Other interactions**
Fluconazole: increase antihypertensive effects
Indomethacin: decreased hypotension effect
Anti hypertensive ( beta blockers..lol)

**Atenolol**: tenormin tenorec  
**Uses**: hypertension, MI, angina  
**Adverse Reactions**: bradycardia, hypotension,

**Metoprolol**: lopressor, toporol  
**Uses**: hypertension, Angina, MI, HF  
**Adverse Reactions**: hypotension, HF, cardiac arrhythmia

**Propranolol**: inderol  
**Uses**: cardiac arrhythmia , MI, angina, hypertension, migraine prophylaxis, hypertrophic subaortic stenosis , phenochromocytoma , tremor  
**Adverse Reactions**: bradycardia, hypotension, bronchospasm, hyperglycemia, pulmonary edema

Antiadrenergics ( centrally acting)

**Clonidine**: catapres/ tts ( transdermal prep avail)  
**Uses**: hypertension, severe cancer pain  
**Adverse reactions**: sedation, dry mouth , syncope, dreams, rash

**Methyldopa**:  
**Uses**: hypertension, hypertensive crisis  
**Adverse Reactions**: bradycardia, aggravation of angina pectoris, HF, sedation, nasal congestion

Antiadrenergics( peripheral)

**Doxazosin**: cadura  
**Uses**: hypertension, BPH,  
**Adverse Reactions**: dizziness , fatigue, headache

**Prazosin**: minipress  
**Uses**: hypertension  
**Adverse reactions**: postural hypotension ,dyspnea, nasal congestion

**Terazosin**: hytrin  
**Uses**: hypertension, BPH  
**Adverse Reactions**: same as prazosin

**Alpha/beta blockers**

**Carvedilol**: coreg  
**Uses**: hypertension, HF, left ventricular dysfunction  
**Adverse Reactions**: bradycardia, hypotension, cardiac insufficiency

**Labetalol**: translate ( 20 mg over 2 minutes , constant BP monitoring)  
**Uses**: hypertension  
**Adverse reactions**: Hypotension , impotence
**Calcium channel blockers**

**Amlodipine**: norvsac  
**Uses**: hypertension, stable angina, vasospastic angina  
**Adverse Reactions**: headache

**Diltizam**: cardiezem (extended release)  
**Uses**: hypertension, chronic angina, A-FIB, supraventricular tachycardia  
**Adverse Reactions**: AV block, bradycardia, edema, dyspnea, rhinitis

**Verapmil**: calan  
**Uses**: Same as diltizam  
**Adverse reactions**: constipation, headache

**Ace inhibitors**

**Captopril**: (no food) capoten  
**Uses**: hypertension, HF, LVD, after MI, diabetics neuropathy  
**Adverse Reactions**: rash

**Enalpril**: vasotech  
**Uses**: hypertension, HF, asymptomatic LVD  
**Adverse Reactions**: Headache, dizziness

**Lisinopril**: prinivil  
**Uses**: hypertension, Post MI, HF  
**Adverse Reactions**: orthostatic hypotension

**Ramipril**: Altace  
**Uses**: hypertension, HF, decrease risk of cardiovascular disease, coronary artery disease  
**Adverse reactions**: dizziness cough

**Angiotensin receptor agonist**

**Candesartan**: atcand  
**Uses**: hypertension, HF  
**Adverse Reactions**: URI symptoms

**Irbesartan**: avapro  
**Uses**: hypertension, néphropathy in diabetes  
**Adverse reactions**: URI symptoms

**Losartan**: cozaar  
**Uses**: hypertension, LVD hypertension, diabetic néphropathy,  
**Adverse Reactions**: URI symptoms

**Valsartan**: diovan  
**Uses**: hypertension, post MI, HF  
**Adverse Reactions**: viral infections

**Direct renin inhibitors**

**Aliskiren**: tekturna  
**Uses**: hypertension  
**Adverse Reactions**: URI symptoms