Central α_2 agonist...

* α_2 receptor mainly found in presynaptic nerve terminal to inhibit NEpi releasing.
  + ↓ heart output. (supress sympathetic)
  + less renin

Clonidine, methyldopa ⟶ α_2 agonist.
- have patches
- Prodrug

* α_2 receptos also found in BV but at lesser amount than α_1. However, both of them lead to vasoconstriction.

* These drugs at high dose will affect Peripheral α_2 agonist leading to ↑ blood pressure

* Clonidine ✗ Antidepressent / Barbiturates / Monoamine oxidase

* Side effects for these drug:
  Sedation, dry mouth, Na^+ retention, dizziness

* Clonidine used for diagnosis of pheochromocytoma.

Ganglionic blocker...

(Nicotinic blocker)

in emergency → block both sympthatic / para ← effect depends on predominant.

Sympthatic is predominant:

- BV → بنزلوا الضغط
- sweat gand.

para is predominant

- Heart
- Eye
- GIs
- urinary → blacketer.
- sal. ary gland.

Trimethaphan

→ to reduce blood pressure in emergency

* side effect:

1) potentiate (تعزيز) tubocurarine. (هرخي عضلات)

2) have histamine releasing Properties.

Vasodilaters...

→ these drugs work only on BV not heart, so may lead to Tachycardia.

Hydralazine → vasodilatory altering Ca^{+2} by hyperpolarization (K^+ exit)

SE:
- reflex tachycardia – can be blocked by propranolol –.
- Sodium/water retention – can be blocked by diuretic –.
- Headache, nausea, dizziness,
- Lupus syndrome

Minoxidil → activate ATP K^+ channel to cause hyperpolarization & relaxation.

- must be given with diuretic, sympatholytic in severe hypertension.

→ prodrug, must be metabolized in liver to minoxidil sulfate.

SE: as hydralazine, hypertrichosis

Fenoldopam → Dopamine 1 agonist - in renal artery - vasodilation & natriuresis (Na^+ exit)

– check slide 30.

Vasodilators in treatment of hypertensive crisis

Sodium Nitroprusside → release NO → activate guanylyl cylase → ↑cGMP [muscle relaxant]

* (I.V) / light sensetive / cleared by kidney / may lead to Acidosis!
* SE: rebound hypertension / tolerance.

Diazoxide ⟶ activate ATP K^+ channel to dilate Arteries no effect on vein.

* IV. 2min onset, longer than SNP

* SE: Tachycardia, Angina.

Labetalol / Carvedilol ⟶ α_1 antagonist & β non selective antagonist.

*orally or IV/ Tachycardia/ use labetalol in pheochromocytoma.

لا إله إلا أنت سبحانك

إني كنت من الظالمين..