تفريغ فارما ١

اسم الموضوع: Lecture 11

إعداد الصيدلاني/ـة: نور ابوليلى

Soul Academy

لجان الدُّفعات

β1 → Heart → HR↑, Contractility↑, CO↑ → لما أعملهم Block رح تقل الـ contractility بالتالي رح يقل HR و CO

β1 → Kidney → renin↑ → Angiotensin I → Angiotensin II → vasoconstriction = إرتفاع بالضغط → لو عملتلو Block → رح يقل الـ renin → يقل الـ Angiotensin → Vasodilation → يقل الضغط

الأدوية اي تعمل Block
للـ β receptor

β-ADRENERGIC BLOCKING AGENTS

β2 → BV → Vasodilation → Vasoconstriction لما اعمل Block ح يصير

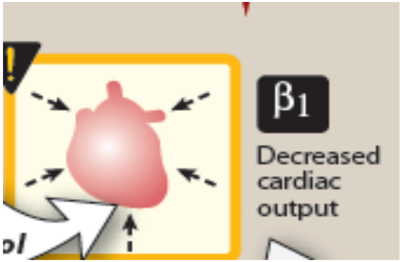
β2 → bronchiol (lung) → Bronchodilation → Bronchoconstriction لما أعمل Block ح يصير

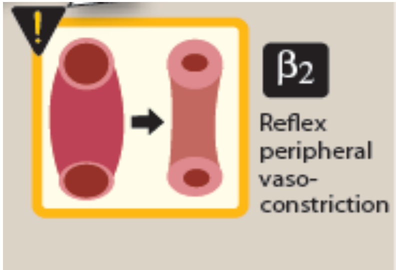
β2 → Liver → glycogenolysis —Block→ glucose ← glycogen ما ح يتحول → السكر ح يقل

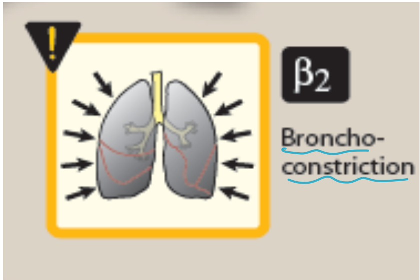
β2 → البنكرياس → ↑glucagon → gluconeogenesis → gluconeogenesis ح تقل عملية ⟹ hypoglycemia

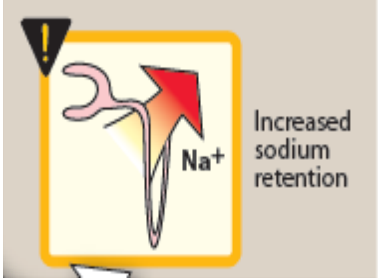
* ف β blocker بتنزل ضغط الدم بس
بتعمل بنفس الوقت Bronchoconstriction و hypoglycemia
→ S.E

β-ADRENERGIC BLOCKING AGENTS









β-ADRENERGIC BLOCKING AGENTS

إستخدامات ال β blocker :-

I. HTN — Hypertension
II. Angina
III. MI — Myocardial infraction
IV. CHF — Congestive heart failure
V. Cardiac Arrhythmias : لل Tachycardia وممكن في بعض الحالات في ال Bradycardia
VI. Glaucoma
VII. Migraine prophylaxis

صداع الشقيقة

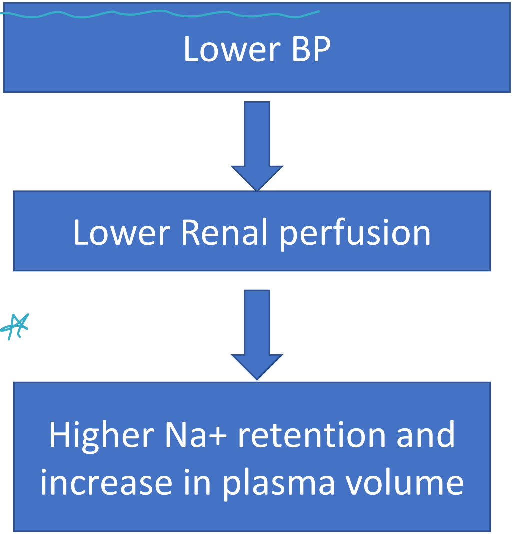
→ حماية
عشان أمنع حدوثها

Other effects of Propranolol

❖ **Increased Na+ retention:**

الميّ رح تنحبس ورح
ترجع للدم ورح يصير حجم
الدم كبير ⟸ رح يرتفع
الضغط

* عشان هيك بعطي مع
propranolol
{Diuretic}
↲ بيمنع
Na retention
→ بيمنع الإرتفاع



Lower BP

Lower Renal perfusion

Higher Na+ retention and increase in plasma volume

Many Beta blockers are administered with diuretics to prevent Na+ retention

Pharmacokinetics

- ✓ Propranalol is completely absorbed oraly
- ✓ 25% of the dose is BA (hight 1st pass effect)
- ✓ Cross BBB , high V_d

Lipophilic

CNS side effect إلو ←

Therapeutic effects

- ✓ HTN :
  - via ↓ CO (mainly) & ↓ Renin production
- ✓ Migraine :
  - ↓ Both incidence & Severity of attacks
- ✓ Angina pectoris and MI
- ✓ Hyperthyrodism

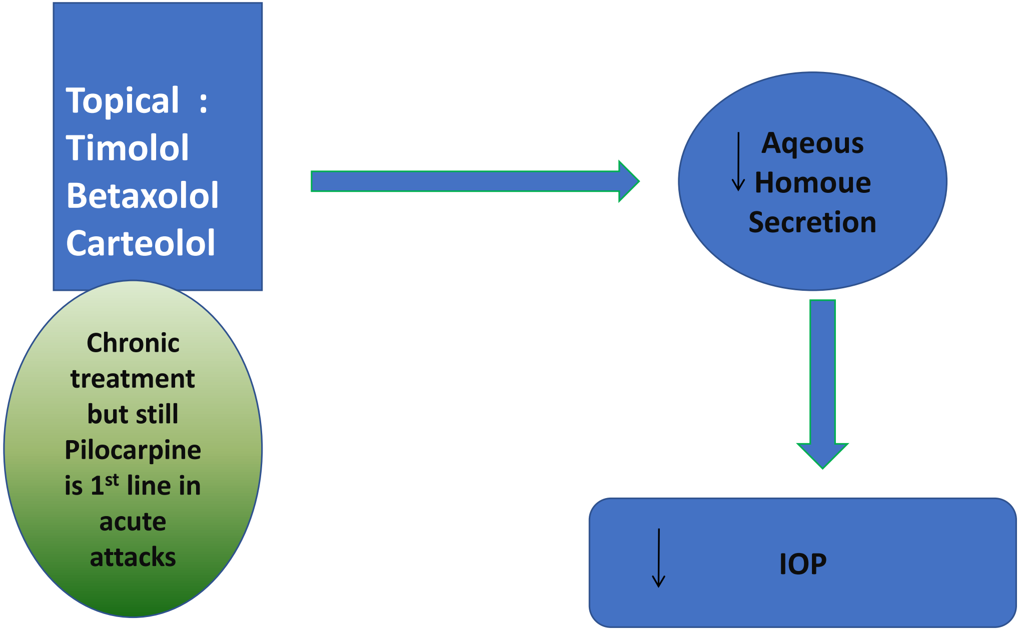
S·E

Adverse effects of Propranalol (Inderal)

I. Bronchospasm
II. Arrhythmias
III. Sexual impairment
IV. Metabolic disturbances
V. Depression, dizziness, lethargy, fatigue, weakness, visualdisturbances, hallucinations

CNS ← side effect

Treatment of glaucoma



Topical :
Timolol
Betaxolol
Carteolol

Chronic treatment but still Pilocarpine is 1st line in acute attacks

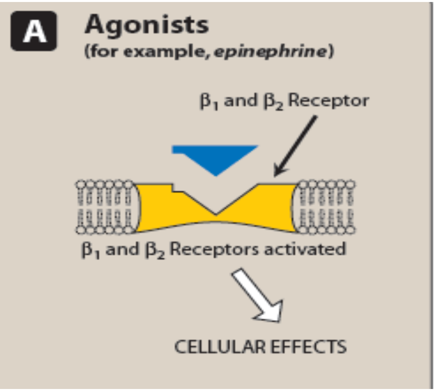
↓ Aqeous Homoue Secretion

↓ IOP

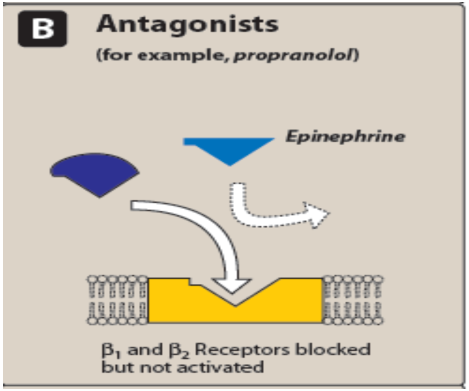
Selective β1 antagonists

تعمل block بس لل β_1

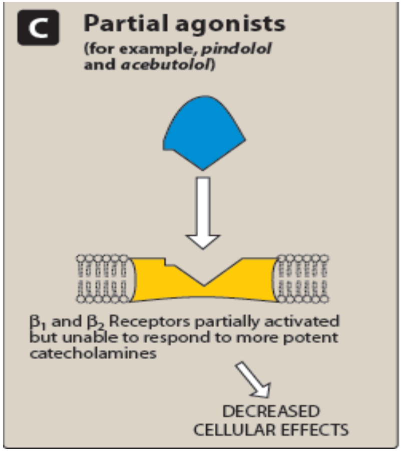
- **Acebutolol**
- **Atenolol**
- **Metoprolol**
- **Bisoprolol**
- **Betaxolol**
- **Nebivolol,**
- **Esmolol**



A **Agonists**
(for example, *epinephrine*)



B **Antagonists**
(for example, *propranolol*)



C **Partial agonists**
(for example, *pindolol* and *acebutolol*)

DRUGS AFFECTING NEUROTRANSMITTER RELEASE OR UPTAKE

- Historical value, seldom use

Reserpine

- A plant alkaloid
- Blocks the Mg2+/adenosine triphosphate–dependent transport of biogenic amines, (Norepinephrine,Dopamine, and Serotonin) from the cytoplasm into storage vesicles in the adrenergic nerves of all body tissues.
- Decreases NE release and impairement in SNS
- Slow onset of action, long duration
- Old anti HTN medication

Guanethidine

- Blocks the release of stored norepinephrine as well as displaces norepinephrine from storage vesicles (thus producing a transient increase in blood pressure)
- Leads to NE depletion peripherally
- causes Orthostatic Hypotension

- End of unit II regarding ANS drugs!!!!!!!