
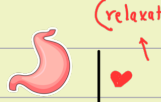



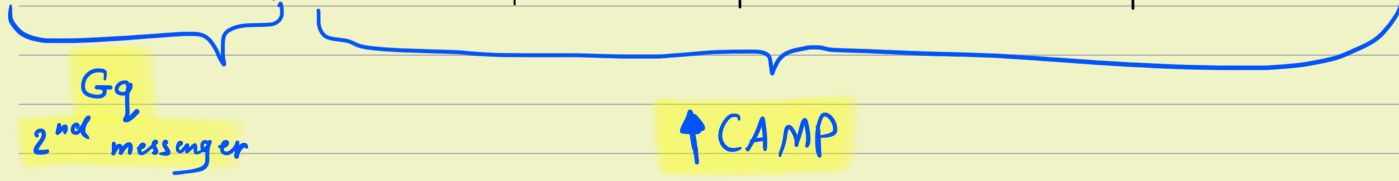


Adrenergic receptor

	 α_1 (contraction)	 α_2 (relaxation)	 β_1 (heart)	 β_2	 β_3
① Vaso construction For blood vessels, so \uparrow BP ② Uterus (in few time) ③ Mydriasis because of radial muscle contraction ④ GI \rightarrow wall \rightarrow relaxation \rightarrow sphincter \rightarrow contraction ⑤ Urinary bladder \rightarrow wall \rightarrow relaxation \rightarrow sphincter \rightarrow contraction ⑥ Sweat gland (palm, forehead)	(91) α_2 presynaptic \leftarrow Adrenaline \leftarrow تنظيم ضغط الدم \leftarrow تنظيم كيميائيات الدم α_1 receptor	* (heart) ① \uparrow Heart rate ② \uparrow conduction ③ \uparrow contractility * Kidney * adipose tissue in low concentration	① bronchodilatation ② Skeletal muscle \rightarrow \uparrow blood flow (vaso dilatation) \rightarrow hypocalcimin in blood. \rightarrow Facilitation of Nm receptor. ③ Heart \rightarrow dilatation of coronary artery ④ glycolysis ⑤ Uterus relaxation ⑥ تنظيم ضغط الدم عند الولادة Aqueous humor of eye \rightarrow زيادة	Adipose tissue mainly in the upper part of the body \leftarrow تنزول الدهون يمكن بطريقة غير متساوية في الجسم	



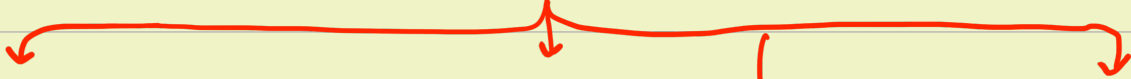
Muscarinic receptor

Nicotinic receptor

$M_1 \rightarrow G_q \uparrow Ca^{2+}$ excitatory	$M_2 \rightarrow \downarrow CAMP$ inhibitory	$M_3 \rightarrow G_q \uparrow Ca^{2+}$ excitatory	N_n gangli \downarrow	N_m skeletal muscle \rightarrow contraction
① GI \rightarrow \uparrow mortality and \uparrow Hcd with M_3 ② CNS	① heart \rightarrow \downarrow SAN bradycardia \leftarrow	vasodilatation \rightarrow \downarrow BP ① blood vessels \rightarrow M_3 \rightarrow \uparrow BP para synaptic nerve ② GI \rightarrow wall \rightarrow contraction \rightarrow sphincter \rightarrow relaxation ③ Urinary bladder wall \rightarrow contraction \rightarrow sphincter \rightarrow relaxation ④ Gland \rightarrow \uparrow Secretion ⑤ Eye \rightarrow miosis \rightarrow \downarrow IOP \rightarrow near vision ⑥ Smooth muscle \rightarrow contraction		

* Drugs to treat these diseases

Diseases



Myasthenia gravis

① Neostigmine

ليس انتقائي non-selective

يعطى مع Atropine (تقلل تأثيره)

(M receptor)

② Pyridostigmine

- more selective (Mm)

- We use it without Atropine.

- Longer duration

③ Edrophonium (tensilon)

- more selective than

neostigmine and pyridostigmine.

- Short duration (5 min) So

it uses as a test

④ Immunosuppressive drug

↳ prednisolone, azathioprine, cyclosporine

⑤ Potassium chloride

⑥ Ephedrine → ↑ glycogenolysis and muscle blood flow and muscle potassium.

Glaucoma

- Carbachol

- Pilocarpine

- Cevimeline

- physostigmine

- Isoflurophate

- Echothiophate

↳ Its duration 2 weeks)

↳ not preferred

Alzheimer disease

- physostigmine

- Donepezil

- Rivastigmine

Sjogren syndrom

- Pilocarpine

- Cevimeline