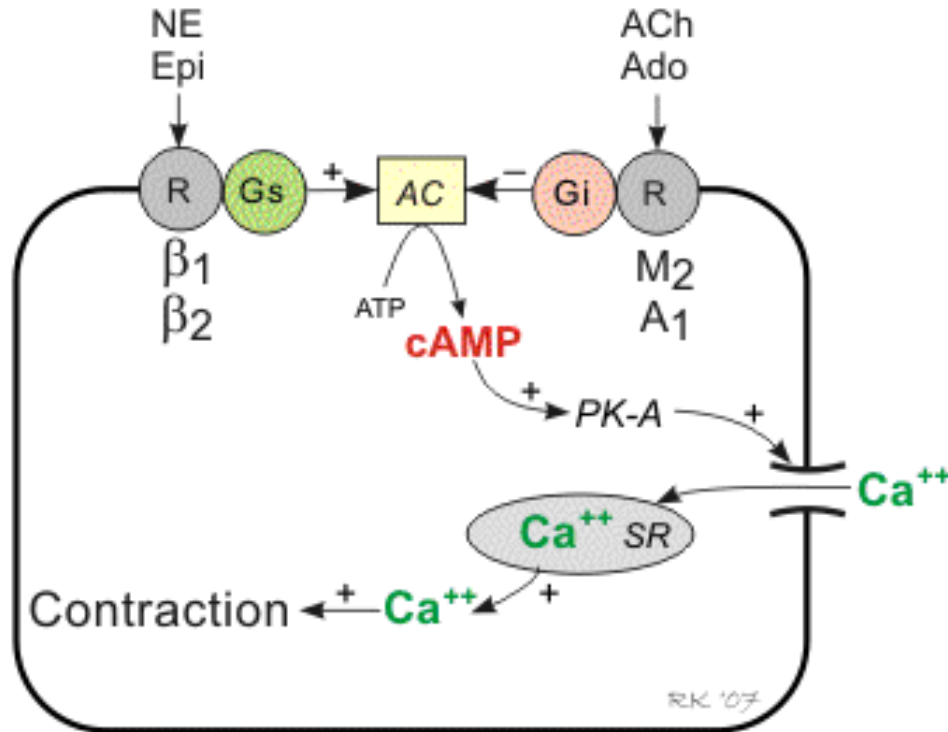


Anticholinergics and sedatives-Lummy J's Chapter 9

1. Anticholinergics are used in anesthetized patients predominantly for their effects on
 - a. Muscular nicotinic receptors
 - b. M1 muscarinic receptors
 - c. *M2 muscarinic receptors*
 - d. M3 muscarinic receptors
2. Please illustrate the cellular signaling resulting in increase heart rate with the use of atropine



R, receptor; Gs and Gi, stimulatory and inhibitory G-proteins; AC, adenylyl cyclase; PK-A, protein kinase A; SR, sarcoplasmic reticulum; α and β , alpha and beta-adrenoceptors; Epi, epinephrine; NE, norepinephrine; ACh, acetylcholine; M₂, muscarinic receptor; A₁, adenosine (Ado)

3. For several days following an anesthetic event, your patient is showing signs of regurgitation and discomfort while eating. You are suspicious this is a consequence of atropine. In what way do you believe atropine caused this in your patient
 - a. Decreased GI motility due to spastic ileus
 - b. *Reduction in lower esophageal tone during anesthesia*
 - c. Persistent megaesophagus due to inhibition of M3 receptors
 - d. Reduction in smooth muscle activity of the esophagus
4. Please list 5 receptors to which acepromazine binds
 - a. D1
 - b. D2
 - c. Alpha-1
 - d. 5-HT2
 - e. M3
 - f. H1

5. Dopaminergic blockade is responsible for which of the following affects of acepromazine?
 - a. Decreased blood pressure
 - b. *Tremor*
 - c. Decreased glandular secretions
 - d. Decreased hematocrit
6. In what way does acepromazine exert anti-arrhythmic properties?
 - a. *Blockade of myocardial alpha 1 receptors*
 - b. Blockade of inward sodium channels
 - c. Inhibition of the ryanodine receptor
 - d. Upregulation of potassium channels
7. The use of alpha-2 agonists for restraint is mediated through which receptor?
 - a. *Alpha-2A*
 - b. Alpha-2B
 - c. Alpha-2C
 - d. Alpha-2D
8. The initial surge in vascular resistance and reflex bradycardia seen with alpha-2 agonists is mediated through which receptor?
 - a. Alpha-2A
 - b. *Alpha-2B*
 - c. Alpha-2C
 - d. Alpha-2D
9. After sedation for radiographs of his stifle, your patient is kept in a cage with no water, and apparently became dehydrated at some point. You suspect this is, in part, due to the consequences of the medetomidine used for sedation. Why do you think this?
 - a. Medetomidine enhances the amount of free water in both lacrimal and salivary secretions
 - b. Medetomidine inhibits the release of antidiuretic hormone
 - c. Medetomidine inhibits the absorption of water from the gastrointestinal tract.
 - d. *Medetomidine alters the renal response to antidiuretic hormone*
10. Benzodiazepines differ from barbiturates in their molecular activity in that
 - a. Barbiturates interact with GABA_B receptors and benzos interact with GABA_A receptors
 - b. Benzodiazepines enhance sodium leak and barbiturates enhance potassium uptake, resulting in hyperpolarization
 - c. *Benzodiazepines enhance GABA binding whereas barbiturates enhance intrinsic receptor activity*
 - d. Benzodiazepines alter serotonin reuptake and barbiturates alter norepinephrine release