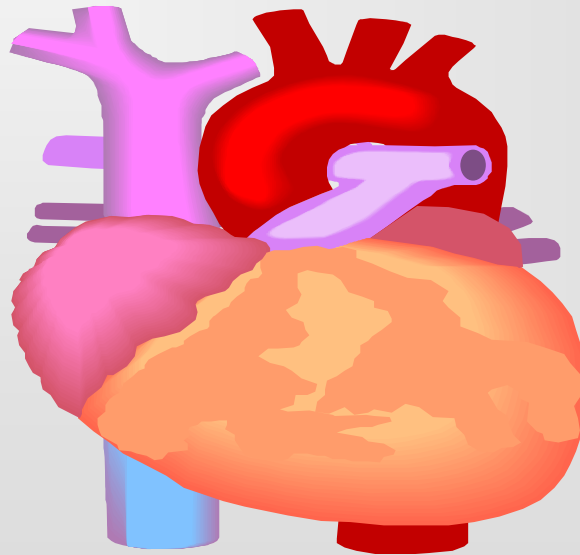


INOTROPES



Sympathomimetic receptors

- Beta 1 - Heart
- Beta 2 - Blood vessels (dilatation), Bronchi (dilatation), GIT, Kidney (renin), {Heart}
- Alpha 1 - Blood vessels (constriction)
- Alpha 2 - Presynaptic (reduce noradrenaline release)
- DA 1 - Renal, mesenteric, coronary, cerebral vasodilatation
- DA 2 - Presynaptic (reduce noradrenaline release)

ADRENALINE

- Alpha and Beta stimulant
- Beta 2 vasodilatation most sensitive
- Small dose leads to vasodilatation with increased cardiac output
- High dose leads to vasoconstriction with increased cardiac output and BP

NORADRENALINE

- Alpha stimulation (small Beta)
- Increased SVR and BP
- Reduced cardiac output and increased myocardial oxygen demand (minimal beta effects)

ISOPRENALINE

- Beta stimulation (small Alpha at high doses)
- Reduced SVR and BP (Beta 2)
- Increased HR & cardiac output (positive inotropic Beta 1 effect)

Dopamine

- DA 1 - Renal etc. vasodilatation
- DA 2 - Peripheral vasodilatation
- Alpha and Beta effects at higher doses leading to increased HR, positive inotropism, increased cardiac output, vasoconstriction

DOBUTAMINE

- Beta 1 - Positive inotropism, increased HR, increased cardiac output
- Beta 2 - Small effect - vasodilatation

DOPEXAMINE

- DA 1- Renal etc. vasodilatation
- DA 2 - Peripheral vasodilatation
- Beta 1 - Increased HR, positive inotrope, increased cardiac output
- Beta 2 - Vasodilatation, increased HR, positive inotrope
- Inhibits noradrenaline reuptake (effects antagonised by Beta 2 vasodilatation)

ENOXIMONE/MILRINONE

- Phosphodiesterase 3 inhibitor
- Increased cAMP in cardiac muscle - positive inotrope, mild positive chronotrope
- Increased cAMP in vascular smooth muscle - vasodilatation
- Overall effect - Increased cardiac output, vasodilatation, reduced myocardial oxygen consumption