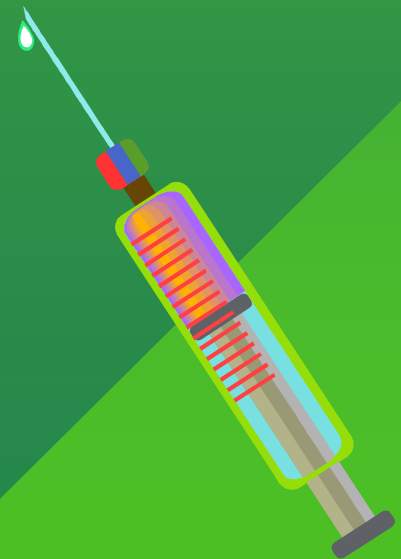


KETAMINE

VICTOR RINGO.



KETAMINE....

- PHENCYCLIDINE DERIVATIVE
- 2 ISOMERS, R AND S
- IV AGENT
- COLOURLESS LIQUID
- 10, 50, AND 50MG/ML
- PARTIALLY WATER SOLUBLE.

Ketamine MOA

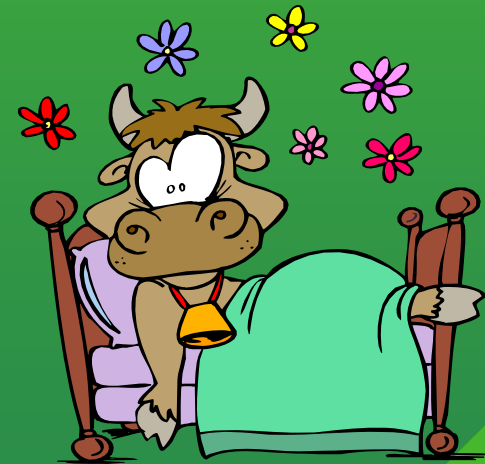
- Non competitive antagonist of calcium channel pore of the NMDA receptors.
- Modulates activity at muscarinic and opioids receptors.
- Dissociates the thalamus from limbic system.

Ket.....MOA

- Thalamus relays sensory impulses from RAS to cerebral cortex
- Limbic cortex involved with awareness of sensation.

“DISSOCIATIVE ANESTHETIC”

- Produces an atypical behavioral state.
 - State of sedation
 - Immobility
 - Amnesia
 - Marked analgesia
 - Feeling of dissociation from the environment
 - Without true unconsciousness



PHARMACKINETICS

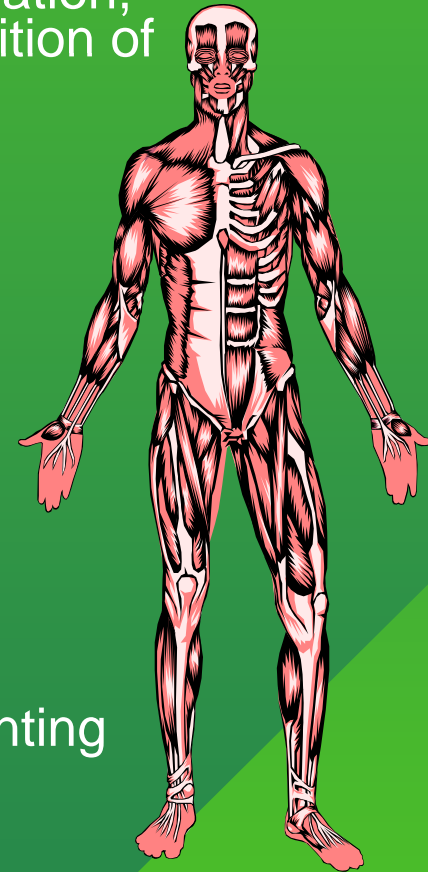
- **Onset of action:**
 - IV <30 seconds
 - IM/ rectal 3 – 4 minutes
- **Peak effects:**
 - IV 1minute
 - IM/ rectal 5 – 20 minutes
 - PO 30 minutes
- **Duration of action:**
 - IV 5 - 15minute
 - IM/ rectal 12 – 25 minutes
 - Epidural 4 hours
- **Metabolism:**
 - Demethylation & hydroxylation by hepatic CYP
 - One of the produced metabolites is active
 - Norketamine (Metabolite I)
 - Has a potency of 30% of the parent drug & longer half-life

PHARMACODYNAMICS

- Dosing:
 - Sedation/Analgesia
 - IV: 0.2 – 0.8 mg/kg
 - IM/ rectal: 2. – 5.0 mg/kg
 - PO: 5 – 6 mg/kg
 - Induction
 - IV: 1.0 – 2.0 mg/kg
 - IM/ rectal: 5 – 10 mg/kg
 - Infusion
 - 15-80 mcg/kg/min
 - Augment with diazepam IV 2 -5 mg or midazolam IV 1 -2 mg
 - Epidural/ Caudal
 - 0.5 mg/kg
 - Dilute in saline or local anesthetic (1 mL/kg)
 - Preemptive analgesia- 0.15-0.25mg/kg iv

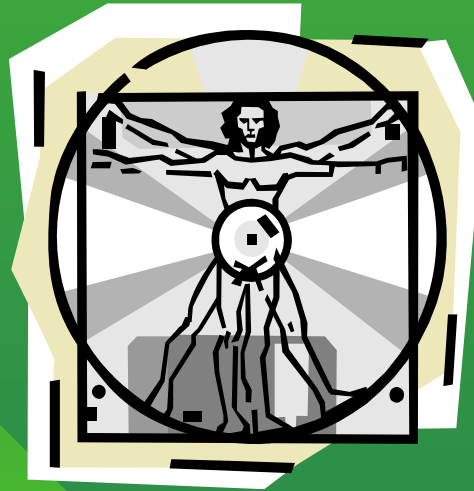


- Cardiovascular system:
 - Direct myocardial depressant
 - Overridden by the central sympathetic stimulation, neuronal release of catecholamines, & inhibition of neuronal uptake of catecholamines.
 - Increase in systemic arterial pressure
 - Increase in heart rate
 - Increase in cardiac output



- Pulmonary system:
 - Bronchial smooth muscle relaxant
 - As effective as inhalational agents in preventing bronchospasm
 - Increase in pulmonary arterial pressure
 - Increases alivary & tracheobronchial secretions

- Neurological system:
 - Seizure threshold is not altered
 - Increase in cerebral metabolism, blood flow, & ICP



- Other:
 - Increases uterine tone without adverse effects on uterine blood flow
 - Does not release histamine

KET..... S/E

- Hallucination /delirium.
- Nightmares
- Increase secretions and laryngospasm.
- Increase BP and ICP.
- Abnormal muscle movements.

Ket...CI

- Increase BP/ICP,CCF
- In those prone to hallucination and nightmares.
- Open eye injury
- Ischaemic heart disease.
- Vascular aneurysms.

Ket....USES

- Premedication, sedation, induction, maintenance.

Shocked, severely ill, severe asthma; cardiac tamponade, restrictive pericarditis.

Short repetitive procedures.

Analgesia in chronic pain.

Mass casualties.

Ket...USES

- Icu sedation in severe asthma.
- Third world-simplicityand excellent safety.
- Epidural and caudal block.

Ket.

- AKHSANTE SANA.

The image features a vibrant green background with a large, stylized yellow sunburst in the center. A red, rounded rectangular button is positioned horizontally across the middle of the sunburst. The text "THANK YOU" is written in white, bold, uppercase letters on the red button. The background is composed of several geometric shapes: a vertical orange bar on the left side, a large green diamond shape in the center, and a smaller green diamond shape in the top right corner.

THANK YOU