

Neuromuscular Blocking AGENTS



Taqwi Esam





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Introduction



Neuromuscular blocker drugs that interrupt transmission of nerve impulses at the skeletal neuromuscular junction. .



They can be of two types, competitive, stabilizing blockers or noncompetitive, depolarizing agents



Both prevent acetylcholine from triggering the muscle contraction and they are used as anesthesia adjuvants, as relaxants during electroshock, in convulsive states, etc.



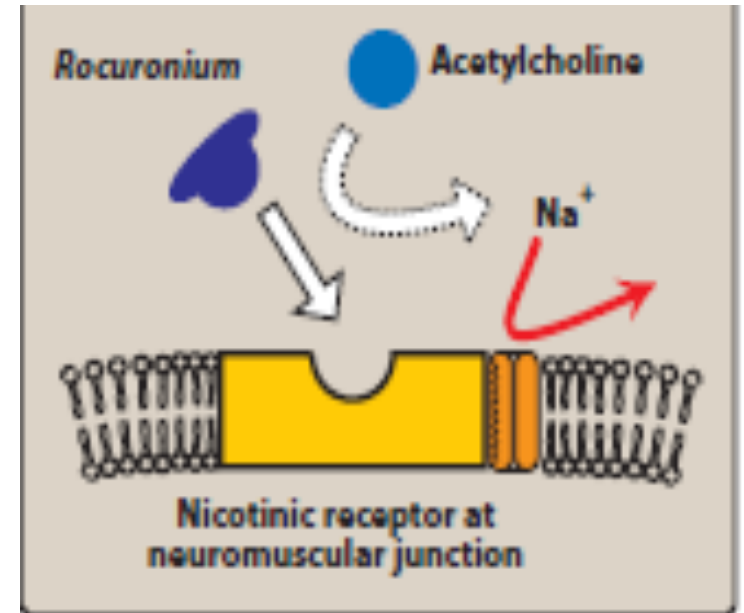
NEUROMUSCULAR BLOCKING AGENTS

Neuromuscular blockers

Define

These drugs block cholinergic transmission between motor nerve endings and the nicotinic receptors on the skeletal muscle.

They possess some chemical similarities to ACh, and they act either as antagonists (non-depolarizing type) or as agonists (depolarizing type) at the receptors on the endplate of the NMJ.

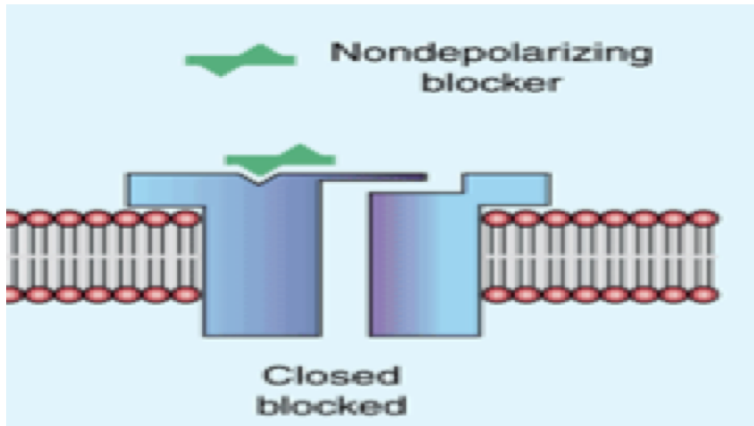


• Classify neuromuscular blockers

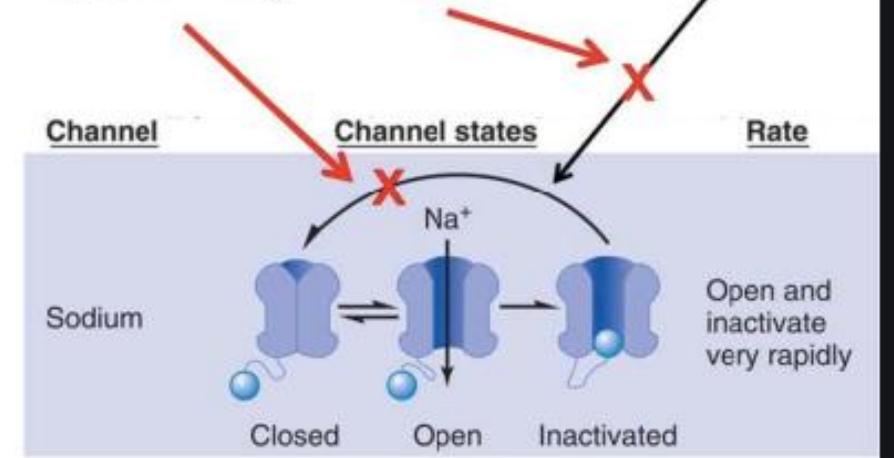
The competitive blockers have affinity for the nicotinic (NM) cholinergic receptors at the muscle end plate, but have no intrinsic activity. The competitive blockers also block pre-junctional nicotinic receptors located on motor nerve endings, such as drugs:

DECAMETHONIUM

A. Non-depolarizing (Competitive) blockers



Depolarizing NMBs



B. Depolarizing blockers

Decamethonium and SCh have affinity as well as submaximal intrinsic activity at the NM cholinergic receptors. They depolarize muscle end plates by opening Na⁺ channels (just as ACh does) and initially produce twitching and fasciculation.

Such as drugs:

Succinylcholine (SCh)

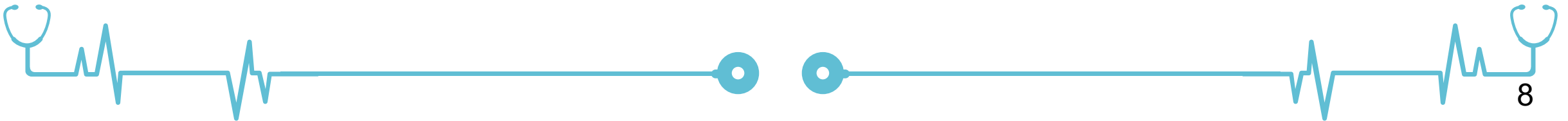
References



Lippincott Illustrated Review Pharmacology



Essentials of Medical Pharmacology copy





Thank You

