Module 3:Neural conduction and transmission

Lecture 16:Neuromuscular transmission

The Lecture Contains:

- Neuromuscular transmission

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Neuromuscular transmission

Type of Neurotransmitter	Neurotransmitters	Function
Class I	Acetylcholine	Mostly excitatory
Class II: Bioactive amines	Dopamine	Excitatory and inhibitory
	Epinephrine	Excitatory
	Norepinephrine	Excitatory
	Serotonin	Excitatory
Class III: Amino acids	Glutamate	Excitatory
	Glycine	Mostly inhibitory
	g-Aminobutiricacid (GABA)	Inhibitor
	Aspartate	Excitatory

Table 3.a: Neurotransmitters

Transmission at neuromuscular junction

Neurohumoral transmitters (acetylcholine) are key players at the neuromuscular junctions. As the action potential reaches terminal arborization of the axon it stimulates release of acetylcholine which diffuses across the small gap between the neuron and the end plate of the muscle. Acetylcholine interacts with specific receptor complex thus increasing permeability of the endplate membrane to all ions. If this change is sufficient to produce a suprathreshold depolarization at the endplate, an impulse gets generated. Acetylcholine gets destroyed by acetylcholinesterase, an enzyme, which are stored in the endplates of the muscles in high concentration.

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