-the excitable tissue ➡ the tissue that produce function on excitation.

-most of the tissue in the body are nearly excitable,

And most of it(nearly R.M.P) but some of it don't give function if its excited (giving impulse),

e.g : if we give impulse to nerve fiber its will give function but skin will not give function

-nervous and muscular tissue ➡ produce its function only on excitation

Nervous system

-the most complex system in the body.

-its formed of very large number of nerve cell , most of this cells in CNS (brain + spinal cord), some of this cells present in PNS(autonomic nerve fiber)

-these cells vary according to:

*shape: 1-star shape 2- unipolar(with two branch) in CNS

3- bi-polar(mainly present in CNS)

4- pyramid (mainly present in cerebellum)

*function:(initiation and transmission of impulses).

-the disease of nervous system its may cause by abnormal in initiation or transmission.

-the main different between sensory and motor nerve cell is type of conduction:

The motor nerve cell send the impulse from CNS to PNS to muscle or another tissue, while sensory nerve cell carry the impulse from PNS to CNS.

-motor nerve cell: formed of body + long axon and its periphery nerve fiber

-sensory nerve cell: have 2 axon(one very long reaching the skin and peripheral tissue), they have receptors that send the impulse to the CNS.

-is there motor signal and sensory signal?

-All the nerve cells have the same signal because the signal is transmitted as an action potential or de-polarization (transport in motor nerve fiber and go to muscle and do respond)

-re-polarization (transport the sensory to the CNS).

-the common language between motor and sensory is the action potential.

-interconnecting neuron: send impulse from motor nerve cell to the sensory nerve cell and receive it.

-in somatic nervous system these interconnecting neuron are present in the CNS(only)

-in the autonomic nervous system, it is present in the autonomic ganglia.

*connective neuronal cell (neuroglia) which bind nerve cell with each other and with the tissue that surround it.

-types of neuroglia:

1-astrocytes(bind the nerve cell with blood vessel and act as BBB(blood brain barrier))

2-oligodendrocytes (bind different axon with each other and form the nerve fiber that is formed of many axon).

3-microglia

بعض البحوث الحديثة تقول ان:

(microglia + glia tissue) they are presenting in brain they may have function in thinking)

-nessle granules: they are certain granules present in nerve tissue but its not present in another tissue because its contain the neurotransmitters (acetyl choline, nor adrenaline)

-N.M.J(neuro muscular junction): the synapse between nerve and muscle

-the synapse of nerve fiber: the synapse between nerve and nerve

the synapse is:

شق او فراغ بين خليتين عصبيتين لانه لا يوجد اتصال مباشر بينهما بل شق تشابكي

-how can the subctance transmitted from the cell body to periphery ?

*By axoplasmic flow

-to have excitation that should reach the threshold.

R.M.P:

In thick myelinated nerve fiber = -90mV.

In thin myelinated nerve fiber = -80mV.

In nerve fiber without myelinated = -70mV.

-if there is a mistake in R.M.P the Na-K pump will repair it.

We have 3 proparity that keep the R.M.P constant on all excitable tissue.

1-un equal distribution of the electron across the membrane.

2-semi-permeability or selective permeability of cell membrane.

3-present of Na-K pump.

Why the –ve charge in the cell and +ve charge out of the cell?

Because there is a protein(-ve charge) in the cell and there is Na out of the cell and the cell membrane prevent crossing one of them, but K can be transmitted freely.

Membrane potential:

-during resting state: -90mV

-on excitation : +45mV

-equilibrium potential: that stop the transport of ions and electrons in cell membrane when reach the R.M.P (-90)

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#فريق_التبييضات