Central Nervous System

Sheet# 3 - Physiology

Lec. Title : Cerebral Blood Flow

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| Lec. 3 | Physiology (Dr. Ejlal)
Cerebral Blood Flow

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Peptide histidyl methionine has a role in secretion of prolactin
.and other hormones in endocrine system

Any deficiences in postganglionic cholinergic neurons that innervate the cerebral vessels like acetylcholine, VIP and Peptide histidyl methionine cause different pathologies like ALzahimer

Calcitonin gene related peptide has a very strong correlation with migraine. Some research said if CGRP increase the risk of migraine increase.

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Carbon dioxide is the most important metabolic factor for cerebral blood flow.

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Excercise doesn't affect cerebral blood flow despite the increase in CO_2

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Cerebral blood flow mainly depend on myogenic mechanism(smooth muscles in the cerebral blood vessels) in autoregulation not neural mechanism

Optimal autoregulation for cerebral blood flow between 50 - 150 mmHg blodd perssure below 50 ischemia is occured and above 150 vasogenic edema us occurred.

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Aquaporin water channels 1 and 4 mainly expressed in choroid plexus and brain microvessels to remove excess CSF. Any changes in Aquaporin channels lead to different pathologies like interstitial hydrocephalus

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Blockage in Aqyeduct of Sylvius the most common blockage
occure in pathway of CSF (congenital blockage)

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Brain edema that occure due to compression the vessels is called intracellular edema or vasoconstriction edema. While edema that occure due to decreased cerebral flow is called extracelluar edema or vasogenic edema

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Brain uses 25% of total glucose in body.

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Glucose delivery to brain cells isn't dependent on insulin mainly due to presence of GLUT 1 and GLUT 3

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