41. REM SLEEP AND MEMORY. MEMORY DISORDERS IN SLEEP PATHOLOGY

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Introduction: REM sleep has a great influence on the development of memory, due to intense brain activity and to metabolism which can be increased upto 20%. Special sequences of declarative memory are reorganized during sleep, being reflected by changes ofactivity in brain during the subsequent consolidation of memory.

Propose and Objectives: To highlight the importance of sleep on memory and to mention the memory disorders that include sleep pathology.

Results: One of the theories of REM sleep and memory (described by Roffwarg, Musio and Dement in 1966) suggests that repetitive neuronal activity during REM sleep of the fetuses is associated with the development and their growth; the same synaptic reorganization continues in adults during REM sleep, so the information is recalled due to repetitive use of it in the circuit that stores the information. Cholinomimetic drugs (with an action similar to acetylcholine) increasethe frequency of the REM sleepepisodes.Therefore it was assumed that large neurons that secrete acetylcholine, located in the upper brainstem, could activate multiple brain areas. Theoretically this could be the cause of the hyperactivity met in different brain regions during REM sleep. The mechanism that allows memory consolidation through neural activity can be found in the hippocampus, a well-established brain region to memory. In this region, during REM sleep, are observed EEG theta waves that help to transfer the information to the neocortex. Have been observed that the sleep pathology as apnea, insomnia, generates memory disorders, it forms an imbalance in the duration of the REM sleep and its quality.

Conclusion: The relationship between reverberation brain and memory consolidation still remains unclear, just some aspects of this link were studied till now. Due to the fact that neuronal reactivation during REM sleep was proved and it is sustained for long period of time, providing a mechanism for increasing the memory until it is stored effectively, it is to be assertedthe importance of this process that allows the brain to process the new information during the day.

Keywords: REM sleep, memory, sleep pathology

42. VARIABILITY OF THE EXTRACRANIAN BRANCHES OF THE FACIAL NERVE (MORPHO-CLINICAL ASPECTS)

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Introduction: Numerical and trajectory variability of facial nerve branches is one of the main causes of failed surgery, which determine neurologists and surgeons to perform systematic studies of variants of branching path and extracranial portion of the facial nerve.

Purpose and Objectives: To study the variability of the extracranial facial nerve branches and create morphological path way maps of facial nerve.

Material and methods: The variants of branching of the extracranial part of the facial nerve were studied in 12 anatomical parts.

Results: The facial nerve variants branching of two primary trunks and cervicofacial temporofacial was predominant in 10 cases out of 12 studied cases, nerve trifurcation was observed only in one case, as evidenced by the case of the nerve branch fan-shaped. The length of the predominant average criteria was in eight cases, followed by three short length and long-term cases in a single case. In five cases the nerve trunk had an upward trajectory, in four cases the trajectory was downward and in three cases there was a horizontal trajectory. In eight cases predominate thick upper torso (temporofacial), in three cases by thick trunks were equal and only in one case the

thickness of the lower torso prevailed over the upper torso. The anatomical parts were made on cadaveric material belonging to the same person, in one case we noticed the obvious difference in how right branching nerve is located on the left side of the face, and in the second case differences were not very pronounced. The results show that the distance between the primary trunks between 10 and 70°, the extent of the upper torso (temporofacial) is between 30 and 130°, the extent of the lower torso is between 25 and 70°, the angles of the branches of the upper torso are between 10° and 70°, lower torso angles between branches vary between 20 and 40°.

Conclusions: (1) The variability of the extracranial portion of the facial nerve branches falls into a wide range of options. (2) Predominant after branching options -fork in primary trunks and cervicofacial temporofacial after long-stem of medium length, as thick - temporofacial trunk are after Ferry - upward. (3) According to surgical anatomical maps, distances between primary trunks between 10 and 70°, the extent of the upper torso (temporofacial) is between 30 and 130°, the extent of the lower torso is between 25 and 70°, the angles of the branches of the upper torso are between 10° and 70°, the angles of the lower trunk branches vary between 20 and 40°.

43. ANGIOGENESIS OF ATHEROSCLEROTIC PLAQUES IN PATIENTS WITH METABOLIC SYNDROME

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Introduction: Numerous studies have demonstrated that endothelial damage is a precursory symptom of atherosclerosis, which leads to an increase of vascular permeability, activation of mast cells and migration of leukocytes, lymphocytes, macrophages, adhesion of platelets, proliferation of vascular smooth muscle cells and eventual vasospasm and pro-inflammatory condition. All of the above listed components can be rightf-ully considered active pathogenetic participants in atherosclerosis and a result of aggregation of all risk factors that accompany a wide variety of cardiovascular diseases, such as coronary heart disease, hypertension, diabetes, dyslipidemia, etc. The influx of monocytes and mast cells during the early stages of atherosclerosis leads to the most pronounced manifestations of vascular inflammation, especially in patients with metabolic disorders. Angiogenesis is a very important pathogenetic element of atherosclerosis in stages of complicated plaques, along with mast cells and macrophages.

CD-105 is a sensitive marker of newly formed endothelial cells, an effective index of activation and proliferation of microvessels, not only in aggressive forms of cancer, but also in atherosclerotic plaques of the affected vessels. The plaque neovascularization process often begins in intima, progresses and leads to further destabilization of atherosclerotic plaques (intramural hemorrhage, ruptures etc.). Also, anti-MCT (mast cell tryptase) and CD-68 demonstrate clearly the important pathogenetic stages and patterns of atherosclerosis development and its complications in patients with metabolic disorders.

Purpose and Objectives: In our study, we analyzed the histotopographic distribution of newly formed blood vessels as a feature of angiogenesis, the extent of mast cell degranulation, the expression of macrophages in different types of plaques, as well as various arterial vessels in patients with atherosclerosis and metabolic syndrome, complicated by atherosclerosis. We have tried to analyze the importance of mast cells and macrophages, the patterns of development of atherosclerosis stages, along with diagnostic and prognostic features.

Materials and Methods: The study included 34 patients, who died of atherosclerosis (no. =17) and atherosclerotic complications of metabolic syndrome (no. =17). Fragments of their cerebral (middle cerebral arteries), carotid, coronary arteries, aorta (thoracic and abdominal segments), renal, iliac and vertebral arteries were collected for research at autopsy. The fragments