TOPICS FOR THE CONTEST FOR THE POSITION OF ASSOCIATE PROFESSOR

DISCIPLINE: NEUROLOGY (lectures, clinical internship for students registered in the study programme GENERAL MEDICINE, English language teaching department, 5th year)

position 16 in the Staff Establishment of the Department of Psycho-Neurosciences and Rehabilitation, Faculty of Medicine and Pharmacy, University of Oradea

1. INTRODUCTION. Terminology. The cells of the nervous system and their functions. The development of the nervous system. Inter- and intracellular signalling. Neuroplasticity.
2. MOTRICITY. Definition of terms. Upper and lower motor neurons. Pyramidal and extrapyramidal motor pathways. Classification of movements. Muscle tone. Reflectivity (classification of reflexes, normal and abnormal reflexes). Upper and lower motor neuron syndromes. Classification and semiology of the involuntary movements.
3. GENERAL SOMATIC SENSATION. Sensory pathways. Sensory syndromes. Principles of pain management. Headache. Types of primary headaches (migraine, tension-type headaches, cluster headache). Diagnostic criteria and management of the aforementioned primary headaches.
4. THE CRANIAL NERVES. Anatomy, semiology, etiology of cranial nerve palsies.
5. THE CEREBELLUM. Anatomy and physiology of the cerebellum. Diseases of the cerebellum. Classification and semiology of the various types of ataxias.
6. EXTRAPYRAMIDAL MOVEMENT DISORDERS. The basal ganglia and their neuronal circuits. Extrapyramidal movement disoders (Parkinson's disease, Huntington's disease, Wilson's disease, progressive supranuclear palsy, essential tremor, dystonias). Diagnostic criteria, positive and differential diagnosis, treatment.
7. THE CEREBRAL CORTEX. The cerebral hemispheres and hemispheric dominance. Anatomy and physiology of the cerebral cortex. Cortical functions. Aphasias, agnosias, apraxias.
8. CEREBROVASCULAR DISEASES. Anatomy and physiology of the cerebral blood supply. The pathophysiology of ischemic stroke. Etiopathogenic subtypes of ischemic stroke. Diagnosis and evaluation. Treatment of acute ischemic stroke. Prevention (primary and secondary prevention). Cerebral aneurysms and arterio-venous malformations. Subarachnoid hemorrhage. Intracerebral hemorrhage (hypertensive and amyloid angiopathy-related ones). Clinical picture, evaluation, positive and differential diagnosis, management.
9. EPILEPSY. Etiology and pathophysiology of epileptic seizures. Classification and clinical picture of the epileptic seizures. Electroencephalography. Positive and differential diagnosis and evaluation. Principles of antiepileptic treatment.
10. NEUROINFECTIONS. Lyme disease (neuroborreliosis). Herpes virus infections. Poliomyelitis. Myelitis. Cerebral abscess. Positive and differential diagnosis, treatment.
11. DEMYELINATING DISEASES. Multiple sclerosis: pathogenesis, pathology, clinical picture, diagnostic criteria, differential diagnosis, treatment.
12. INTRACRANIAL TUMORS. The syndrome of increased intracranial pressure: pathophysiology, clinical picture, treatment. Classification of the primary intracranial tumors and grading systems. Clinical picture, evaluation, differential diagnosis, treatment. Secondary intracranial tumors (cerebral and leptomeningeal metastases). Paraneoplastic neurological syndromes.
13. DISEASES OF THE PERIPHERAL NERVOUS SYSTEM. Cervical and lumbar disc herniation. Radiculopathies and neuralgias. Mono- and polyneuropathies. Electromyography and nerve conduction studies. Acute demyelinating polyneuropathy (Guillain-Barré syndrome) - pathogenesis, clinical picture, positive and differential diagnosis, treatment.

14. DISEASES OF THE NEUROMUSCULAR JUNCTION AND MYOPATHIES. Myasthenia gravis and myasthenic syndromes - pathogenesis, clinical picture, evaluation, positive and differential diagnosis, treatment. Progressive muscular dystrophies - classification, etiology, pathogenesis, positive and differential diagnosis, therapeutic strategies. Polymyositis and dermatomyositis.

BIBLIOGRAPHY

1. Jurcau A. Clinical Neurology. Ed Universitatii din Oradea, **2009**
2. Fuller G. Neurological Examination Made Easy, 6th edition, Elsevier, **2019**
3. Jameson JL, Fauci AS, Kasper DL, Longo DL, et al (ed). Harrison's Principles of Internal Medicine, 20th ed, **2018**
4. Allan H, Ropper MA, Samuels JK. Adams and Victor's Principles of Neurology. 11th Ed, McGraw-Hill, **2019.**
5. Powerpoint slideshows used for the lectures and posted on the Microsoft Teams platform of the University of Oradea.