11. Summary.

Introduction and purpose

The most common cause of neurogenic dysphagia, the so-called upper dysphagia (associated with the oral and pharyngeal phases of the swallowing process), is an acute cerebrovascular accident (CVA) in the form of a stroke. In the acute period of a stroke, dysphagia may occur in **29 - 81%** of patients and withdraw in 80% of patients after 10-14 days. In approximately **11 - 50%** of stroke survivors, symptoms of dysphagia persist for more than 6 months after CVA. Neurogenic dysphagia is an independent factor of severe disability and death after stroke. Aspiration pneumonia (AP) is the most serious complication of neurogenic dysphagia. The risk of AP in patients with stroke and confirmed aspiration increase 7 times to patients after stroke without aspiration. Patients are often affected by so called *silent aspiration* (SA) - they aspirate saliva and chyme to the respiratory tract and there are no clinical signs of aspiration like coughing or choking in act of swallowing liquids in or solid food, and very often there is no gag reflex, too. VFSS and FEES, so-called objective methods of assessing swallowing disorders, are recommended in the diagnosis of silent aspiration.

The aim of the study: to assess the occurrence of dysphagia and aspiration in patients in the acute, subacute and chronic stroke phase and correlation of physical examination (neurological and speech therapy – GUSS) with the FEES.

Material and methods.

The research material consisted of 81 patients after a stroke who were hospitalized in the Clinical Department of Neurological and General Rehabilitation of the Warmia and Mazury University Hospital, Olsztyn in 2018-2020. Due to the time from the onset of stroke to the FEES examination, patients were divided into 3 groups (FEES performed respectively: up to 14 days after the stroke, in the period of 14-30 days and the period of more than 30 days after stroke). After analyzing the information from the treatment card from the stroke unit and neuroimaging of brain (CT, MRI, angio-CT, angio-MRI) neurological and speech therapy examination were performed (assessment of symptoms of focal CNS damage with particular emphasis on VII, IX, X and XII cranial nerves damage, GUSS). Then FEES was performed which ultimately determined the way of patient's nutrition and the need for speech therapy treatment of dysphagia.

Results.

The FEES confirmed swallowing pathology in a total of 22 patients (27,16% of the cohort). Mild dysphagia was found in 7 patients (8,64%), moderate dysphagia in 9 patients (11.11%), and severe dysphagia (**aspiration)** in 6 patients (**7,41%** of the cohort). Every thirteenth patient of cohort was at very high risk of developing aspiration pneumonia. Statistically significant direct predictors of dysphagia or aspiration on physical examination were weakness or absence of palatal reflexes and decreased gag reflex. The red flags were dysfunctions of facial and sublingual nerves.

No patient with dysphagia in FEES developed aspiration pneumonia - the life-threatening complication of severe dysphagia.

Conclusions.

Neurogenic dysphagia is a relatively common symptom in patients after CVA in the acute, subacute and chronic phases. It was most often observed between 14 and 30 days after CVA. Cranial nerve damage (VII, IX, X and XII) were associated with a statistically higher risk of dysphagia and silent aspiration. FEES is a relatively simple and safe test for patients after CVA and images the so-called silent aspiration. Strong correlation between FEES and GUSS in detecting symptoms of neurogenic dysphagia has been proven.

FESS should be the "gold standard" test in the assessment of dysphagia in neurological patients, both in the acute, subacute and chronic phases of CVA and should be available in every stroke unit and every neurological rehabilitation department.