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ABSTRACTS

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Post-stroke aphasia and mobile application "LOGOS"

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Keywords aphasia, stroke, mobile application.

According to the national stroke register of 2019 and 2020, more than 60,000 residents of the Republic of Uzbekistan are diagnosed with strokes every year, and 1/3 of patients have speech disorders-aphasia.

The aim is to study the dynamics of aphasia in the acute period of hemispheric strokes and apply the prototype of the first mobile application in the Uzbek language "LOGOS".

Methods. We examined 60 patients with hemispheric strokes from 2018 to 2019. The state of speech functions was studied three times on day 1-3 , from day 3 to 21, and in the early recovery period. Group 1 included 28 patients with motor aphasia; group 2 - 12 patients with dynamic aphasia; group 3 - 20 patients with total aphasia. The male sex prevailed, the average age was 64.0 +_ 1.3.

Results. In group 1, speech recovery after 1 day was observed in 7% of patients, within 3-5 days in 7.1%, within 1 week in 14.3%, by the end of the 1st month in 57% and without dynamics in 7.1% of patients.

In group 2, dysarthria was mainly detected, speech recovery during the day was noted in 16.7%, within 3 days in 50%, within 5 days in 8.3% and within 1 week in 16.7% of patients.

In group 3, speech recovery was noted only in the 1st patient.

Conclusions. In the dynamics of speech disorders are restored. The worst recovery is observed in patients with total aphasia. Speech recovery should start with the most acute period of a stroke using the LOGOS mobile speech recovery apps.

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Inhibition of TGF-β1-smad3 pathway alleviates cognitive impairment in chronic intermittent hypoxia rats

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Backgrund: Obstructive sleep apnea syndrome (OSAS)is characterized by cyclical collapse of the upper airway, resulting in frequent intermittent episodes of hypoxemia , hypercapnia and arousals during sleep,One of the major consequences of OSAS is neurocognitive impairment, which the underlying mechanism is not clear. chronic intermittent hypoxia (CIH) is commonly seen as episodes of apnea and hypopnea, which is regarded as the major pathology of OSAS-associated diseases,The effect of TGF-β1 involved both in neuroprotective and in neurodegenerative mechanisms. Hence ,this study was intended to find out whether CIH altered expression of TGF-β1 ,total and phosphorylated forms of the downstream signalling molecule SMAD3 levels in rats in CIH or normal conditions. Understanding the underlying molecular mechanism of neuropathology damage caused by CIH is helpful to develop available strategies to treat OSAS-related dementia.

Objective: To investigate whether TGF-β1-smad3 pathway takes its role in underlying molecular mechanism of neuropathology damage caused by CIH.

Methods: Male Sprague-Dawley rats were randomly assigned to CIH or room air exposures.Morris water maze were assessed to test cognitive function of rats. Nissl Staining was used for observing changes in hippocampus neurons.Moreover Expression of TGF-β1 ,total and phosphorylated forms of SMAD3 were determined by Western Blotting.

Results: Chronic intermittent hypoxia causes cognitive deficits in rats.Chronic intermittent hypoxia causes hippocampus neurons death in rats. Expression of TGF-β1 and p-SMAD3 levels is elevated in hippocampus of CIH rats.Inhibition of TGF-β1-smad3 pathway alleviates cognitive impairment in chronic intermittent hypoxia rats.

Conclusions: In a murine model of OSA, cognitive impairments induced by CIH are