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Chronic Cerebral Ischemia: Spectrum of Clinical, Neurological and Psycho-Emotional Disorders

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Abstract

Background: Chronic cerebral ischemia (CCI) is a progressive cerebrovascular disorder associated with cognitive decline and psycho-emotional disturbances.

Aim: To investigate clinical, neurological, cognitive, and psycho-emotional characteristics in patients with different stages of CCI.

Materials and Methods: The study included 60 patients aged 55–75 years with CCI stages I–III treated at neurology departments of Neuro Med Service Clinic and Central Clinical Hospital of JSC "Uzbekistan Railways". Neurological examination, anamnesis analysis, MMSE, Frontal Assessment Battery (FAB), Beck Anxiety Scale, and biochemical blood tests were performed.

Results: Progressive increase in neurological deficits, cognitive impairment, and psycho-emotional disorders was observed with disease progression. MMSE scores decreased from 28.6±0.2 (stage I) to 24.3±0.1 (stage III; $p<0.001$). FAB scores showed progressive frontal dysfunction. Anxiety and depressive symptoms increased significantly in advanced stages. Dyslipidemia also worsened with disease progression.

Conclusion: CCI is associated with progressive neurological, cognitive, and psycho-emotional impairment, which correlates with disease stage and metabolic abnormalities.

Keywords: chronic cerebral ischemia, cognitive impairment, neurological status, depression, anxiety, dyslipidemia.

Chronic cerebral ischemia is one of the most common forms of chronic cerebrovascular pathology, leading to cognitive decline and reduced quality of life. According to WHO and UN data, population aging significantly increases the prevalence of vascular cognitive impairment worldwide.

CCI most commonly develops in association with arterial hypertension and atherosclerosis. Major risk factors include diabetes mellitus, smoking, and genetic predisposition (APOE ε4)

Aim

To evaluate clinical, neurological, cognitive, and psycho-emotional disorders in patients with different stages of chronic cerebral ischemia.

Materials and Methods

A total of 60 patients with CCI stages I–III were examined. Patients were aged 55–75 years, with confirmed diagnosis according to ICD-10 criteria and stable disease course for at least 12 months.

Clinical neurological assessment, cognitive testing (MMSE, FAB), psycho-emotional evaluation (Beck Anxiety Scale), and biochemical blood analysis were performed.

Results

Psycho-emotional and asthenic symptoms were the most frequent complaints across all groups. Weakness, fatigue, sleep disturbances, irritability, and reduced work capacity increased significantly with disease progression.

Neurological deficits (facial nerve paresis, hypoglossal involvement, ataxia, dysarthria, pathological reflexes) were significantly more pronounced in stage III patients.

Cognitive impairment progressed from mild (stage I) to moderate (stage II) and pre-dementia levels (stage III).

Lipid profile analysis demonstrated progressive dyslipidemia with increasing disease severity.

Discussion

The findings demonstrate that chronic cerebral ischemia is a progressive disorder characterized by increasing neurological dysfunction, cognitive decline, and psycho-emotional disturbances. The severity of symptoms correlates with both disease stage and metabolic abnormalities.

Conclusion

CCI is associated with progressive neurological, cognitive, and emotional deterioration. Early detection and comprehensive management of vascular risk factors are essential to slow disease progression.

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