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PREVALENCE AND SEVERITY OF DEPRESSION IN PATIENTS WITH THE CONSEQUENCES OF ISCHEMIC STROKES AND IN PATIENTS WITH CHRONIC BRAIN ISCHEMIA

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Abstract

The aim of our study was to investigate the prevalence and severity of depression in patients with the consequences of ischemic strokes and in patients with chronic brain ischemia. **Material and Methods.** We examined 100 patients with consequences of ischemic strokes and 17 patients with chronic cerebral ischemia. The Hamilton Depression Rating Scale was used to assess the presence and degree of depression. **Conclusions.** Slightly less than half of the patients with chronic cerebral ischemia (47.1%) had no depression, 42.1% had mild depression, and only 11.8% of the patients had moderate and severe depression. A different situation was observed in the group of patients with the consequences of ischemic strokes. Among them, only 22.0% of patients had no depression, 44.0% had mild depression, and 34.0% of patients had moderate, severe, and extremely severe depression ($p < 0.05$).

Key words: ischemic stroke; depression; Hamilton Depression Rating Scale.

Introduction. Depression in cerebrovascular diseases can arise both as a consequence of small vessel ischemia and as a consequence of stroke (Robinson R.G., Jorge R.E., 2016).

The pathophysiology of development of post-stroke depression is predominantly

multifactorial including a combination of various ischemia-induced neurobiological dysfunctions on a background of psychological disorders (Villa R.F., Ferrari F., Moretti A., 2018).

In most cases, post-stroke depression is undiagnosed because physicians often do not check for signs of depression, and people who have had a stroke may either hide symptoms or be unaware of them. Depression does not only impair a person's quality of life and makes recovery from a stroke more difficult, but it also increases the risk of recurrent stroke and death (Legg J.T., 2018).

The aim of our study was to investigate the prevalence and severity of depression in patients with the consequences of ischemic strokes (IS) and in patients with chronic cerebral ischemia (CCI).

Material and Methods. We examined 100 patients (66 men and 34 women) with the consequences of ischemic strokes in the study group and 17 patients (6 men and 11 women) with chronic cerebral ischemia in the control group. The average age of the patients with the after-effects of the suffered strokes was 55.1±1.1 years, and that of the patients with CCI was 55.5±2.5 years.

The examination was carried out in the late rehabilitation period after the suffered ischemic stroke (>6 months after the beginning of the development of ischemic stroke) at the neurological and rehabilitation department of the Kyiv Regional Clinical Hospital No. 1, during the period of 2016–2019.

To assess the presence and degree of depression, we used the Hamilton Depression Rating Scale, which was developed to evaluate patients with depressive disorders before, during, and after treatment in order to observe clinical dynamics. It is by far the best, most reliable and sensitive clinical index for diagnosing the presence and severity of depression. In addition to its widespread use in clinical practice, it is also utilized in clinical trials, in which it is the “gold standard” for determining the efficacy of medications in treating depressive disorders. The scale is used all over the world and has been translated into almost all European languages (Hamilton M., 1986; Carrozzino D., Patierno C., Fava G.A., Guidi J., 2020; Rohan K.J., Rough J.N., Evans M., et al., 2016; Nixon N., Guo B., Garland A., et al., 2020). The success of this scale is determined by its comprehensive coverage of depressive symptoms and related psychopathology, as well as its strong psychometric properties (Williams J.B., 1988).

The questions relate to the patient's condition during the previous week. The scale assesses symptoms of depression, such as low mood, suicidal ideation, anxiety, guilt,

agitation or lethargy, reduced capacity for work, sleep disturbances, and somatic symptoms. The scale is completed by the clinician. A cumulative score is determined by the first 17 items. The next four items are used to assess additional symptoms of depression and define subtypes of depressive disorder (Hamilton M., 1986; Carrozzino D., Patierno C., Fava G.A., Guidi J., 2020; Williams J.B., 2001).

Points from 0 to 7 indicate no depression, 8 to 13 points indicate mild depression, 14 to 18 points indicate moderate depression, 19 to 22 points indicate severe depression, and points over 23 indicate extremely severe depression (Hamilton M., 1986; Williams J.B., 2001; Rohan K.J., Rough J.N., Evans M., et al., 2016).

Statistical analysis of the data was performed using the standard statistical software package Microsoft Excel 2016 and Statistica 6.0. Non-parametric Mann-Whitney U-criterion for two independent samples and Fisher's F-test were used for statistical processing of the obtained results.

Results and discussion. Patients with consequences of ischemic strokes had a mean Hamilton Depression Rating Scale score of 11.4 (Me = 11 / LQ = 8 / UQ = 15), while the control group patients with chronic brain ischemia had a mean score of 11 (Me = 10 / LQ = 7 / UQ = 14) ($p < 0.02$).

As seen from Figure 1, the group of patients with chronic cerebral ischemia was significantly dominated by those without depression (47.1% vs 22.0, $p < 0.03$), whereas those with moderate, severe, and extremely severe depression (34.0% vs 11.8, $p < 0.02$) significantly prevailed among patients with the after-effects of ischemic strokes.

Our data showed that among the patients with chronic brain ischemia slightly less than half of the patients (47.1%) had no depression, 42.1% had mild depression, and only 11.8% of the patients had moderate to severe depression. A different situation was observed in the group of patients with the consequences of ischemic strokes. Among them, only 22.0% of patients had no depression, 44.0% had mild depression, and 34.0% of patients had moderate, severe, and extremely severe depression ($p < 0.05$).

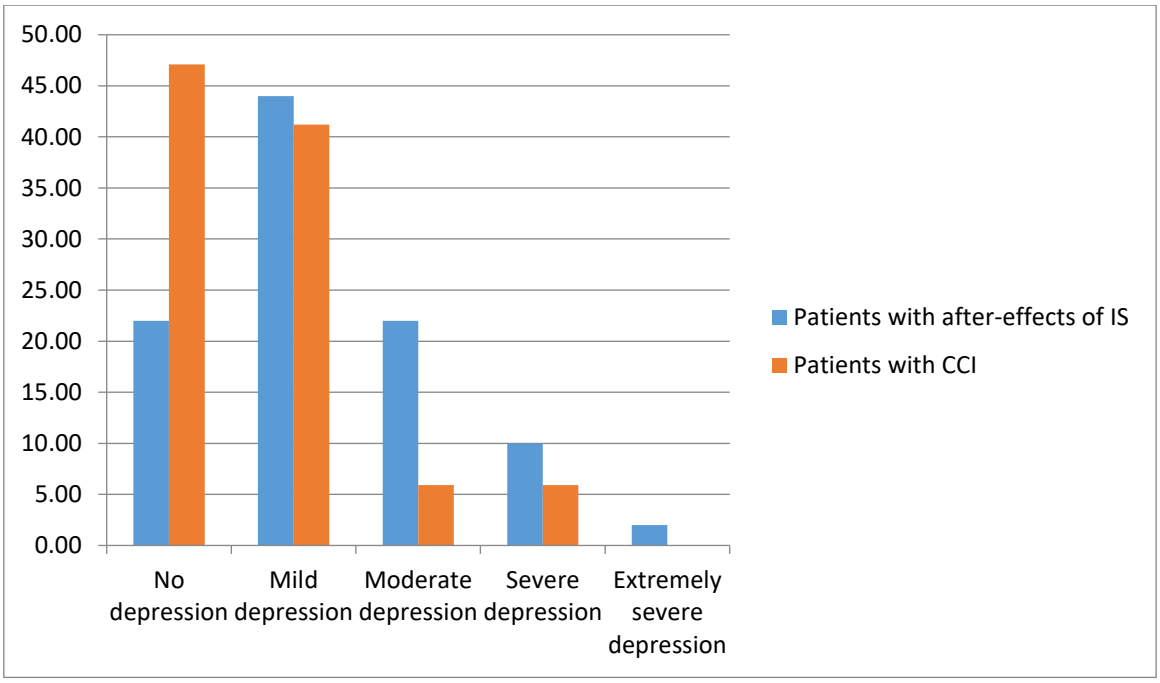

Fig. 1. Depression severity according to the Hamilton Depression Rating Scale in patients with consequences of ischemic strokes and patients with chronic cerebral ischemia (abscissa axis – severity; ordinate axis – proportion of patients)

Conclusions

1. In patients with chronic cerebral ischemia, slightly less than half (47.1%) had no depression, 42.1% had mild depression, and only 11.8% of the patients had moderate to severe depression. A different situation was observed in the group of patients with the consequences of ischemic strokes. Among them, only 22.0% of patients had no depression, 44.0% had mild depression, and 34.0% of patients had moderate, severe, and extremely severe depression ($p < 0.05$).

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