

were assessed. Two groups were formed depending on the prescribed treatment: 1 gr (n=40) – patients who received – LA-5 and BB-12 1 gtt. x TID and 2 g (n=44) received LA-5 and BB-12 + UDCA 500 mg qhs for 1 month.

Results and their discussion. As a result of simultaneous administration of LA-5 and BB-12 and UDCA in the above-mentioned doses, in 93.2% of patients with CHC an increase in the number of bifido- and lactobacteria, Escherichia with normal activity and a decrease in the number of hemolytic microorganisms, proteus, staphylococci and yeast-like fungi, normalization of the act of defecation and the disappearance of symptoms of intestinal dysbiosis were found. In patients taking only LA-5 and BB-12, the above-mentioned positive changes were observed in 62.5%. The developed complex therapy reduces the pro-inflammatory component (the levels of fetoplacental insufficiency – α and neopterin, IL-6 decreased significantly) and activates the anti-inflammatory component of the cytokine system (IL-10 level increased significantly), improves the psychological status and the quality of life of patients.

Conclusions. It was found that the additional prescription of UDCA in combination with a probiotic not only contributes to the restoration of colon microbiocenosis, but also improves the course of CHC and NAFLD, regulates the dysfunction of the cytokine link of the immune system and increases the quality of life of patients.

Key words: colon dysbiosis, hepatitis C, non-alcoholic fatty liver disease, probiotic, UDCA.

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DIRECTIONS FOR RECOVERY OF COGNITIVE FUNCTION IN SURGICAL PATIENTS AFTER GENERAL ANESTHESIA

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Purpose of the study: to develop directions for correcting changes in cognitive functions in patients after general anesthesia in the early postoperative period against the background of neuroprotective therapy based on the results of a survey of 126 patients using neuropsychological testing. The follow-up was carried out by us based on the KNP "Kharkiv City Clinical Hospital for Emergency and Emergency Care named after Professor O.I. Meshchaninov" XMR, which is the clinical base of the department. Patients were divided into 3 groups. 1st group – young patients (18-43 years); 2nd group – middle-aged patients (44-59 years); 3rd group – elderly patients (60-80 years). The obtained changes in cognitive functions against the background of neuroprotective therapy according to the test results may be due to the age-related plasticity of cognitive functions and the depletion of compensatory capabilities. Recovery of results was determined in the immediate follow-up period: in young patients it was gradual than in other age groups, with complete recovery to the level of cognitive impairment in this test at the level before surgery in middle-aged patients. Thus, the obtained results unequivocally recommend the appointment of neuroprotective therapy in the standard postoperative management of surgical patients operated under anesthesia to prevent the onset or deterioration of cognitive functions, which further improves the quality of life.

Key words: general anesthesia, neuroprotective therapy, cognitive function, surgery.

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syndrome" (№ state registration 0116U005232), "Anesthesia and intensive care in patients with damage to the oxygen transport system" (№ state registration 0120U102018).

Introduction. The emergence and prevalence of postoperative cognitive dysfunction has social and economic consequences for the patient, his family and, consequently, society. Currently, there is no single theory about the pathogenesis of postoperative cognitive deficits, but most authors conclude that there are many factors. Correction of cognitive dysfunction that manifests or worsens after surgery using general anesthesia is the leading chain. Such a complex effect, respectively, is cerebroprotection (neuroprotection) [1, 2]. The main promising direction in the search for drugs for the treatment of cognitive impairment is the use of neurotrophic factors, which can "save" degenerating neurons and stimulate the growth of axons and dendrites, to form new ligaments [3, 4]. Foreign and domestic author teams have developed in the formation of directions for the correction of cognitive disorders after surgery. Recommended as one of the methods to prevent the development of postoperative cognitive dysfunction with the use of choline alfoscenate in the perioperative period [5-10]. The most revealing study of the role of citicoline is an open multi-center clinical study (IDEALE) [11, 12]. Summing up the analysis of modern scientific research on the problem after operative cognitive dysfunction, it is possible to note several aspects.

The purpose of the study – to develop directions for the correction of changes in cognitive function in patients after general anesthesia in the early postoperative period on the background of neuroprotective therapy.

Object and methods of research. The follow-up was carried out by us based on the KNP "Kharkiv City Clinical Hospital for Emergency and Emergency Care named after Professor O.I. Meshchaninov" XMR, which is the clinical base of the department. All patients enrolled in the study signed an informed general consent form to consent to participate in the study. The control points of the examination were: the day before the operation, the day after the operation, 7 days from the moment. To comply with the conditions of randomization, much attention was paid to the protocol of perioperative observation of patients. The results of changes in the state of cognitive function in patients after general anesthesia in the early postoperative period on the background of neuroprotective therapy were studied in 126 patients. Patients were divided into 3 groups. 1st group (n=43) – young patients (18-43 years); 2nd group (n=41) – middle-aged patients (44-59 years); 3rd group (n=42) – elderly patients (60-80 years). Patients on the background of the standard postoperative regimen of therapy added a neuroprotective drug according to the scheme. Neuropsychological testing was performed according to the MMSE scale, FAB scale, clock drawing test, A. Lurie's 10-word test, Schulte test.

Research results Prior to surgery, the test value on the MMSE scale was 27.03 ± 1.1 points. In patients of the 1st group the result was 4.3% lower than the most probable result of this test. In patients of the 2nd group – 9.6% lower, in patients of the 3rd group – 15.6% lower. On the 1st day in patients of all groups after surgery, the test score on the MMSE scale was 9.2% lower than the value of this test in the period before surgery. In

patients of the 1st group on the 1st day after surgery, the test score on the MMSE scale was 8.4% lower than the value of this test in the period before surgery in patients of this group, in patients of the 2nd group on the 1st day after surgery, the test score on the MMSE scale was 5.5% lower, in patients of the 3rd group on the 1st day after surgery, the test score on the MMSE scale was 14.2% lower. On the 7th day in patients of all groups after surgery, the MMSE test was 2.3% lower than the value of this test in the period before surgery. In patients of the 1st group on the 7th day after surgery, the test score on the MMSE scale was 3.8% lower than the value of this test in the period before surgery in patients of this group, in patients of the 2nd group on the 7th day after surgery, the test score on the MMSE scale was 1.8% higher, in patients of the 3rd group on the 7th day after surgery, the test score on the MMSE scale was 4.7% lower.

Before surgery, the state of cognitive function on the test on the FAB scale was 16.6 ± 0.7 points. Patients of the 1st group had 17.5 ± 0.3 , patients of the 2nd group – 17.3 ± 0.6 and patients of the 3rd group – 15.1 ± 1.4 . On the 1st day in patients of all groups after surgery, the test score on the FAB scale was 4.2% lower than the value of this test in the period before surgery. In patients of the 1st group on the 1st day after surgery, the test score on the FAB scale was 2.2% lower than the value of this test in the period before surgery in patients of this group, in patients of the 2nd group on the 1st day after surgery, the result was 2.3% lower, in patients of the 3rd group on the 1st day – 9.2% lower. On the 7th day in patients of all groups after surgery, the test score on the FAB scale was 0.6% lower than the value of this test in the period before surgery. On the 7th day of the study, the condition of cognitive function in patients improved relative to the condition on the 1st day, and in patients of the 1st and 3rd groups improved. In patients of the 1st group on the 7th day after surgery, the test score on the FAB scale was 0.5% higher than the value of this test in the period before surgery in patients of this group, in patients of the 2nd group on the 7th day after surgery – 0.5% lower, in patients of the 3rd group on the 7th day after surgery the rate was 3.3% lower.

Prior to surgery, the value of the clock drawing test was 9.6 ± 0.36 points. Patients of the 1st group had 9.8 ± 0.1 , patients of the 2nd group – 9.8 ± 0.2 and patients of the 3rd group – 9.2 ± 0.8 . On the 1st day in patients of all groups after surgery on the background of neuroprotective therapy, the rate of the clock drawing test was 7.3% lower than the value of this test in the period before surgery. In patients of the 1st group on the 1st day after surgery, the rate of the clock drawing test was 3.0% lower than the value of this test in the period before surgery in patients of this group, in patients of the 2nd group on the 1st day – 4.1% lower, in patients of the 3rd group on the 1st day after surgery – 15.2% lower. On the 7th day in patients of all groups after surgery on the background of the inclusion of neuroprotective therapy, the rate of the clock drawing test was 5.2% lower than the level of the value of this test in the period before surgery. In patients of the 1st group on the 7th day after surgery, the rate of the clock drawing test was 2.0% lower than the value of this test in the period before surgery in patients of this group, in patients of the 2nd group on the 7th day after the rate of the clock

drawing test is 3.1% lower, in patients of the 3rd group on the 7th day after the operation the rate of the clock drawing test is 10.8% lower.

Before surgery, the value of the test of 10 words was 7.86 ± 0.3 points. Patients of the 1st group had 9.4 ± 0.1 , patients of the 2nd group – 8.1 ± 0.4 and patients of the 3rd group – 6.1 ± 0.6 . On the 1st day in patients of all groups after surgery on the background of neuroprotective therapy, the test score of 10 words was 6.4% lower than the value of this test in the period before surgery. In patients of the 1st group on the 1st day after surgery, the test score of 10 words was 8.5% lower than the value of this test in the period before surgery in patients of this group, in patients of the 2nd group on the 1st day after 10-word test rate – 2.2% lower, in patients of the 3rd group on the 1st day after surgery 10-word test rate was 9.8% lower. On the 7th day in patients of all groups after surgery on the background of neuroprotective therapy, the test score of 10 words was 2.5% higher than the value of this test in the period before surgery. In patients of the 1st group on the 7th day after surgery, the test score of 10 words was at the level of the value of this test in the period before surgery in patients of this group. In patients of the 2nd group on the 7th day after surgery, the test score of 10 words was 7.4% higher than the value of this test in the period before surgery in patients of this group. In patients of the 3rd group on the 7th day after surgery, the test score of 10 words was at the level of the value of this test in the period before surgery in patients of this group.

Prior to surgery, the value of the results of the Schulte test was 52.7 ± 1.4 s. Patients of the 1st group had 45.1 ± 1.2 s, patients of the 2nd group – 54.1 ± 1.6 s and patients of the 3rd group – 59.1 ± 1.4 s. On the 1st day in patients of all groups after surgery on the background of neuroprotective therapy, the Schulte test was 30.7% lower than the value of this test in the period before surgery. In patients of the 1st group on the 1st day after surgery on the background of neuroprotective therapy, the Schulte test was 18.6% lower than the value of this test in the period before surgery in patients of this group, in patients of the 2nd group on the 1st On the 7th day after the operation, the Schulte test rate is 29.2% lower, in patients of the 3rd group, on the 1st day after the operation, the Schulte test index is 41.6% lower. On the 7th day, patients in all groups after the operation against the background of neuroprotective therapy, the Schulte test was 16.6% lower than the value of this test in the period before surgery. In patients of the 1st group on the 7th day after surgery, the Schulte test was 5.9% lower than the value of this test in the period before surgery in patients of this group, in patients of the 2nd group on the 7th day after surgery the Schulte test was 9.4% lower in patients of group 3 on the 7th day after surgery, the Schulte test was 31.1% lower.

Discussion of research results. According to the dynamics of the test on the MMSE scale after surgery on the background of neuroprotective therapy in young people on the 1st day there were mild cognitive impairment, which almost recovered on the 7th day. In middle-aged individuals, mild cognitive impairment before surgery worsened to moderate on day 1 and fully recovered to pre-surgery level on day 7. In elderly patients, moderate cognitive impairment observed in the preoperative period worsened after surgery on day 1 to

mild dementia and recovered to moderate cognitive impairment on day 7 of the study. In middle-aged patients on the background of neuroprotective therapy, the dynamics of deterioration of cognitive function was observed to a lesser extent, with rapid recovery and improvement than in young patients, which may be due to age-related plasticity of cognitive function.

In young and middle-aged patients, the dynamics of recovery and improvement of cognitive function on the background of neuroprotective therapy according to the FAB test was faster on the 7th day after surgery with general anesthesia. The obtained changes in cognitive function on the background of neuroprotective therapy according to the results of this FAB test may be associated with age-related plasticity of cognitive function and the depletion of compensatory capacity. According to the test of drawing the clock after surgery on the background of the inclusion of neuroprotective therapy in the schemes of standard postoperative management in patients of the 1st and 2nd groups fluctuations were in all observation periods within normal limits, and the elderly had errors on the 1st day after operations and minor inaccuracies persisted on the 7th day. At patients of all groups in all terms of supervision against neuroprotective therapy the way of a course of postoperative cognitive dysfunction was observed: full recovery during the research period to values before operation on this test at patients of young age; partial recovery in middle-aged patients; improvement in elderly patients from values before surgery on this test. Analysis of the results of the 10-word memorization test in patients on the background of neuroprotective therapy showed a deterioration in the results on the 1st day in all age groups of patients, but more significant changes in the test were in elderly patients, with the most significant deterioration on the 1st day after operations. On the 7th day, the rate improved. In patients of all groups in the short follow-up period there was a recovery to preoperative values in young and elderly patients, improvement in middle-aged patients, followed by a significant improvement in the level of cognitive impairment in this test relative to preoperative levels in patients of all groups. During the study, patients on the background of neuroprotective therapy showed a significant significant increase in the time of the Schulte test, mainly on the 1st day in the elderly, with a gradual decrease in the required time on the 7th day. In all groups in the short-term follow-up recovery was defined: in young patients it was gradual than in other age groups, with complete recovery to the level of cognitive impairment on this test at the level before surgery in middle-aged patients.

Conclusions. Thus, the obtained results clearly recommend the appointment of neuroprotective therapy to the standard postoperative management in surgical patients who undergo surgery with general anesthesia to prevent the occurrence or deterioration of cognitive function, which further improves the quality of life.

Prospects for further research. Considering the results of changes in cognitive function after the use of general anesthesia in surgical patients, therapeutic directions are formulated. Follow-up study of drugs, treatment regimens, duration of treatment, are areas for further study.

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**НАПРЯМИ ВІДНОВЛЕННЯ КОГНІТИВНИХ ФУНКЦІЙ У ХІРУРГІЧНИХ ХВОРИХ ПІСЛЯ ЗАГАЛЬНОГО НАРКОЗУ
Дубівська С. С., Веденьєва Р. Я., Григоров Ю. Б.**

Резюме. Метою даного дослідження було розроблення напрямків можливої корекції змін когнітивної функції у пацієнтів хірургічного профілю після загальної анестезії у ранньому післяопераційному періоді на фоні нейропротекторної терапії за результатами дослідження шляхом нейропсихологічного тестування. В ході дослідження отримані зміни когнітивної функції на фоні нейропротекторної терапії за результатами тестів MMSE та FAB можливо пов'язано з віковими особливостями пластичності когнітивної функції та виснаженням компенсаторних можливостей. По тесту малювання годиннику у пацієнтів молодого та середнього віку коливання результатів були в усі строки спостережень в межах норми. У осіб похилого віку виникли помилки на 1-шу добу після оперативного втручання та зберігались незначні неточності на 7-му добу після операції. Аналіз результатів тесту запам'ятовування 10 слів у пацієнтів на фоні нейропротекторної терапії показав погіршення результатів на 1-шу добу в усіх вікових групах пацієнтів, але більш значні зміни по тесту були у пацієнтів похилого віку. Найсуттєвіше значення погіршенням показника спостерігалось на 1-шу добу після операції. На 7-му добу показник покращився. В усіх групах в короткі строки спостережень визначено відновлення результатів проби Шульте. Зокрема, у пацієнтів молодого віку було поступовим ніж у інших вікових групах, з повним відновлення до рівнім когнітивних порушень по даному тесту на рівень до операції у пацієнтів середнього віку. Таким чином, отримані результати нашого дослідження дозволяють однозначно рекомендувати призначення нейропротекторної терапії. Переважно з включенням до схеми стандартного ведення післяопераційного періоду у всіх пацієнтів хірургічного профілю яким проводять оперативне втручання з загальною анестезією. Дана схема післяопераційного ведення пацієнтів дасть можливість для запобігання виникнення або погіршення стану когнітивної функції, що в подальшому сприяє покращенню якості життя.

Ключові слова: загальна анестезія, нейропротекторная терапія, когнітивна функція, операція.

**DIRECTIONS FOR RECOVERY OF COGNITIVE FUNCTION IN SURGICAL PATIENTS AFTER GENERAL ANESTHESIA
Dubivska S. S., Viedieniava R. Y., Hryhorov Yu. B.**

Abstract. The purpose of this study was to develop directions for possible correction of changes in cognitive function in patients with a surgical profile after general anesthesia in the early postoperative period against the background of neuroprotective therapy based on the results of the study by neuropsychological testing. During the study, the changes in cognitive function obtained against the background of neuroprotective therapy according to the results of MMSE and FAB tests may be related to age-related features of the plasticity of cognitive function and depletion of compensatory capabilities. According to the clock drawing test in young and middle-aged patients, the fluctuations of the results were within the normal range in all periods of observation. In the elderly, errors occurred on the 1st day after surgery and minor inaccuracies persisted on the 7th day after surgery. The analysis of the results of the 10-word memory test in patients on the background of neuroprotective therapy showed deterioration of the results on the 1st day in all age groups of patients, but more significant changes in the test were in elderly patients. The most significant deterioration of the indicator was observed on the 1st day after the operation. On the 7th day, the indicator improved. In all groups, within a short period of observation, the results of the Schulte test were restored. In young patients it was more gradual than in other age groups, with full recovery to the level of cognitive impairment on this test to the level before surgery in middle-aged patients. Thus, the obtained results of our study allow us to unequivocally recommend the appointment of neuroprotective therapy. Preferably with inclusion in the scheme of standard management of the postoperative period in all patients of a surgical profile who are undergoing surgery with general anesthesia. This scheme of postoperative management of patients is quite possible to prevent the occurrence or deterioration of the state of cognitive function, which further contributes to the improvement of the quality of life.

Key words: general anesthesia, neuroprotective therapy, cognitive function, operation.

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HISTOLOGICAL FEATURES OF THE INFECTIOUS AND INFLAMMATORY STATE OF THE PLACENTA IN WOMEN WITH PRETERM PREMATURE RUPTURE OF MEMBRANES DEPENDING ON THE DURATION OF THE INTERVAL BETWEEN MEMBRANE RUPTURE AND DELIVERY AND OTHER FACTORS

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A study was conducted to histologically evaluate the infectious and inflammatory state of the placenta in women with preterm premature rupture of membranes (pPROM) and its relationship with the duration of the interval between membrane rupture and delivery, the level of expression of antimicrobial peptides (β -2-defensins) and other factors of the course of pregnancy and labour.

There were examined 56 women of the main group, whose pregnancy was complicated by pPROM at 23-36 weeks of pregnancy and 20 pregnant women of the control group with intact fetal membranes, who subsequently gave birth to full-term babies. The study included anamnesis, study of the course of pregnancy, labour and postpartum period, clinical and laboratory parameters of the mother, including the level of expression of antimicrobial peptides (β -2-defensins) in the blood serum, functional status of the newborn, histological examination of the placenta.

It was found that in the morphological study of placentas in women with pregnancy complicated by pPROM, in most cases (85.7%) signs of placental insufficiency were found, of which in a quarter of cases (25.0%) the insufficiency was acute, which was closely associated with perinatal mortality. The frequency of lesions of various elements and structures of the placenta, membranes and umbilical cord of infectious and inflammatory nature significantly depended on the duration of the interval between membrane rupture and delivery. The average level of expression of β -2-defensins in the blood of pregnant women with pPROM was reduced by 1.4 times compared to healthy pregnant women and inversely correlated with both the acute course of placental insufficiency and funiculitis and simultaneous damage to several elements and structures of the placenta.

Key words: preterm premature rupture of membranes, histological examination of placenta, interval between membrane rupture and delivery, expression of beta-2-defensins.

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Introduction. Preterm premature rupture of membranes (pPROM) occurs in 3% of pregnancies and is the cause of 30% of preterm births [1]. Despite the urgency of the problem, the issues of pathogenesis and possible prognosis of pPROM are not fully understood. Inflammatory changes of membranes are one of the leading

causes of pPROM [2, 3]. On the other hand, waiting tactics for pPROM is associated with the risk of developing infectious complications; in particular, it is an independent prognostic factor for the development of choriodecidualitis and chorioamnionitis [4], which directly correlates with the duration of the interval between membrane rupture and delivery. The gold standard for confirming the presence of an infectious and inflammatory process in the fetoplacental complex is the data of histological examination of the placenta [5].

Changes in the expression of defensins, antimicrobial peptides with a broad spectrum of anti-infective