Реферати

РОЛЬ МАРКЕРІВ ЗАПАЛЬНОЇ ВІДПОВІДІ ТА АНТИОКСИДАНТНОГО ЗАХИСТУ У ПАТОГЕНЕЗІ АБДОМЕНАЛГІЇ У ПАЦІЄНТІВ ІЗ ХРОНІЧНИМ ПАНКРЕАТИТОМ, КОМОРБІДНИМ ІЗ ГІПЕРТОНІЧНОЮ ХВОРОБОЮ

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Сучасна медицина поступово втрачає мононозологічний характер перебігу захворювань, і все помітніше стає тенденція до поліморбідності. Поєднання мультиорганних змін негативно відбивається на клінічному перебігу всіх захворювань. Досить частим поєднанням в практиці клініцистів є поєднання хронічного панкреатита і гіпертонічної хвороби. Мета нашого дослідження полягала у визначенні впливу лабораторних параметрів системи антиоксидантного захисту та маркерів запальної реакції на інтенсивність абдоменалгії у хворих на хронічний панкреатит в поєднанні з гіпертонічною хворобою. Результати нашого дослідження є доповненням фундаментальних знань патогенезу поєднаної патології, а саме елементу формування суб'єктивного параметра - абдоменалгії. Доведено, що лейкоцити, ШОЕ, α1-антитрипсин, глутатионпероксидаза, селен і цинк є ключовими параметрами формування болю в животі. На основі рівня активності зазначених лабораторних параметрів рекомендовано розширювати базовий комплекс медикаментозних заходів з метою прискорення нівелювання абдоменалгії.

Ключові слова: хронічний панкреатит, гіпертонічна хвороба, абдоменалгія, маркери запалення, антиоксиданти.

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РОЛЬ МАРКЕРОВ ВОСПАЛИТЕЛЬНОГО ОТВЕТА И АНТИОКСИДАНТНОЙ ЗАЩИТЫ В ПАТОГЕНЕЗЕ АБДОМЕНАЛГИИ В ПАЦИЕНТОВ С ХРОНИЧЕСКИМ ПАНРЕАТИТОМ, КОМОРБИДНЫМ С ГИПЕРТОНИЧЕСКОЙ БОЛЕЗНЬЮ

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Современная медицина постепенно теряет мононозологический характер течения заболеваний, и все заметнее становится тенденция к полиморбидности. Сочетание мультиорганных изменений негативно отражается на клиническом течении всех заболеваний. Достаточно частым сочетанием в практике клиницистов является сочетание хронического панкретатита и гипертонической болезни. Цель нашего исследования состояла в определении влияния лабораторных параметров системы антиоксидантной защиты и маркеров воспалительной реакции на интенсивность абдоменалгии у больных хроническим панкреатитом в сочетании с гипертонической болезнью. Результаты нашего исследования являются дополнением фундаментальных знаний патогенеза сочетанной патологии, а именно элемента формирования субъективного параметра – абдоменалгии. Доказано, что лейкоциты, СОЭ, α1-антитрипсин, глутатионпероксидаза, селен и цинк являются ключевыми параметрами формирования боли в животе. На основе уровня активности указанных лабораторных параметров рекомендовано расширять базовый комплекс медикаментозных мероприятий с целью ускорения нивелирования абдоменалгии.

Ключевые слова: хронический панкреатит, гипертоническая болезнь, абдоменалгия, маркеры воспаления, антиоксиданты.

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EFFICACY OF PHARMACOLOGICAL CORRECTION OF MAGNESIUM DEFICIENCY IN PATIENTS WITH ARTERIAL HYPERTENSION AND TYPE 2 DIABETES

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The purpose of the study was to assess the efficacy of therapy with addition of magnesium orotate (MO) in patients (pts) with AH and type 2 DM with hypomagnesemia. The total of 62 pts with AH and DM with hypomagnesemia were examined. After registration of the baseline data, baseline therapy was prescribed to all pts, 32 of them (group 1) obtained an additional MO for 8 weeks and 28 pts were included in the comparison group. It was found that antihypertensive efficacy had been more significant in group 1. In group 1 showed significant positive changes in lipid and carbohydrate metabolism and along with an improvement in the quality of life. Thus, an addition of MO in the complex therapy of pts with AH and DM with hypomagnesemia increases the efficacy of antihypertensive therapy, positively affects glucometabolic parameters and the quality of life in this category of patients.

Keywords: magnesium deficiency, arterial hypertension, type 2 diabetes mellitus, daily blood pressure monitoring, treatment.

The work is a fragment of the research project "Development of methods for early diagnosis and drug prevention of fibrosis processes in patients with comorbid pathology (hypertension and type 2 diabetes mellitus) based on the assessment of cardiohemodynamics and renal function", state registration No. 0120U102062.

Significant data have been collected on high prevalence of arterial hypertension (AH) in patients with type 2 diabetes mellitus (type 2 DM) [2]. The combination of hypertension and type 2 DM leads to the mutual influence on the course of the diseases, nature and severity of complications, often aggravates diagnosis, determines a specific choice of drug therapy. It has been demonstrated that the combination of AH and type 2 DM is associated with earlier disability of this cohort of patients, increased risk of development of cardiovascular complications and higher mortality rate compared to the whole population [6].

In conditions of high comorbidity, researchers have been recently focused on studying the role of magnesium deficiency in the development and progression of AH in patients with type 2 DM. It has been demonstrated that magnesium dyshomeostasis can affect vascular tone, endothelial function, lipid metabolism, platelet aggregation, coagulation system and cardiac conduction system, what makes this problem topical for practical public health. It is especially important at the initial stages of the disease, as it helps to prevent or slow down the appearance of vascular complications. It has been established that organic magnesium salts are more effective in correction of magnesium deficiency, especially in combination with orotic acid [1]. One of the widely used in clinical practice drugs for the correction of magnesium deficiency is magnesium orotate, which has a long history of use in cardiology [7]. Thus, it is necessary to study the influence of magnesium deficiency on the pathogenetic mechanisms of the disease progression with a combination of AH and type 2 DM. There is very little data on the advisability of administration of magnesium preparations as a part of combination AH therapy in patients with type 2 DM.

The purpose of the study was to evaluate the influence of magnesium deficiency pharmacological correction on the efficacy of antihypertensive therapy, glucometabolic parameters and quality of life in patients with AH and type 2 DM with hypomagnesemia.

Materials and methods. The total of 60 patients were examined (17 females and 43 males, mean age 52.3±2.7 years) with stage II, grade 2 AH and concomitant type 2 DM (moderate severity, subcompensation stage) with hypomagnesemia. The diagnosis of AH was made in accordance with the recommendations of the European Society of Hypertension and the European Society of Cardiology (ESH / ESC, 2018). Diagnosis of type 2 DM was made according to the general recommendations of the European Association for the Study of Diabetes (EASD, 2018). The study included patients with serum magnesium levels <0.7 mmol/l.

The control group included 20 practically healthy volunteers with an average age 52.7±2.5 years. All examined persons signed an informed consent to participate in the study.

All examined persons underwent general clinical examination, physical examination, office BP, heart rate (HR) were measured, clinical analyses of blood and urine were made, fasting blood serum (FBS), levels of glycosylated hemoglobin (HbA1c) in whole blood, insulin, lipid profile indices (total cholesterol - TC, low density lipoprotein cholesterol - LDL-C, high density lipoprotein cholesterol - HDL-C, triglycerides - TGs) were determined, insulin resistance was evaluated by the HOMA-IR index.

Daily blood pressure monitoring (DBPM) was performed using "ABPM-02" equipment (Meditech, Hungary). The following indicators were determined: daytime, nighttime, daily average (24 hours) of systolic (SBP) and diastolic (DBP), HR.

For the preliminary diagnosis of magnesium deficiency, the questionnaire of Trace Element Institute for UNESCO was used. The test results were interpreted as follows: 0-9 points - no magnesium deficiency, 10-19 - risk group for magnesium deficiency, 20-29 - moderate magnesium deficiency, 30-39 - magnesium deficiency, 40-56 - severe magnesium deficiency. The concentration of magnesium in blood serum was determined with the automatic biochemical analyzer "Humalyzer 2000" (Germany, the limits of normal fluctuations - 0.85-1.2 mmol/l).

The questionnaire SF-36 was used to assess the quality of life (QL). The questionnaire includes physical and mental health. The parameters of physical health (FH) include: physical activity, role-physical functioning, pain and general health. The parameters of mental health (MH) were also taken into account: vitality, social activity, role emotional functioning, as well as the comparison of patients' health (CH). All answers are standardized so that 1 corresponds to the best QL and 5 to the worst one. The total number of points was calculated by summing up all the answers followed by the transformation to a scale from 0 to 100, where a higher score indicates lower QL.

After registration of the initial data, the patients were randomly divided into 2 groups. Basic therapy and magnesium orotate (32.8 mg of magnesium) were administered to 32 patients of the main group (group 1) - Magnerot (Verwag Pharma, Germany) 500 mg 3 times a day for 8 weeks. The comparison group (group 2) included 28 people receiving basic therapy, which included antihypertensive therapy (combination of lisinopril, carvedilol in individually selected doses), antihypertensive therapy (metformin + gliclazide), statins, antiplatelet therapy. These groups of patients were comparable by age, sex, AH duration and type 2 DM, office BP, state of carbohydrate metabolism and presence of magnesium metabolism disorders.

All patients successfully completed the study according to the protocol. The follow up study was performed after 8 weeks of treatment. Side and undesirable effects during this period are not reported.

Mathematical computer processing of the results of the study was carried out using the software package "Statistica 9.0" (Statsoft Inc, USA). Mean value (M), variance, standard deviation, median (m), probability and significance level (p) were calculated. The differences were considered significant at the

level of statistical significance p<0.05. To evaluate the correlation between the indicators, the method of correlation analysis with the calculation of Pearson correlation coefficients (at normal distribution) and Spearman correlation coefficients (at distribution different from normal) was used.

Results of the study and their discussion. During testing for identification of clinical signs of magnesium deficiency at baseline in patients of the main group and the comparison group, moderate magnesium deficiency was found in 84.4% (27 people) and 85.7% (24 people); signs of magnesium deficiency - in 15.6% (5 people) and 14.3% (4 people) of patients, respectively. The differences were statistically significant compared with the control group - p<0.05. At baseline, a decrease in serum magnesium levels to 0.64±0.06 mmol/l in patients of the 1st group and to 0.65±0.05 mmol/l in the 2nd group (versus 0.95±0.03 mmol/l in the control group) was found. An inverse correlation was established between the serum magnesium concentration and the number of test points for clinical signs of magnesium deficiency (r=–0.45; p<0.05).

After the course of therapy, an increase of serum magnesium concentration to 0.98±0.05 mmol/l was observed in patients of group 1. In addition, by comparison of the values of this indicator with the data from a group of healthy individuals, no significant differences were found, what, apparently, shows the compensation of magnesium deficiency in this patient population. Moreover, in patients of group 2, the magnesium content in the blood serum was 0.67±0.03 mmol/l, i.e. it did not change significantly. The results are consistent with the previous studies [3], which showed that administration of magnesium preparations significantly affects the magnesium content in the blood and allows to maintain its normal concentration for a long time.

On the background of the therapy, a positive time change of the main indicators of lipid metabolism in patients with AH and type 2 DM of both groups (Table 1) was observed. A significant decrease of the level of TC, triglycerides and LDL-C was observed with a statistically significant increase in the level of HDL-C.

Table 1

Changes in glucometabolic parameters in patients with AH and type 2 DM in the therapy time course (M±m)

Indicators	Group 1 (n=32)		Group 2 (n=28)	
	Before treatment	After treatment	Before treatment	After treatment
TC, mmol/l	5.64±0.16	5.0±0.08**	5.63±0.18	5.2±0.08*
LDL-C, mmol/l	3.4±0.18	2.4±0.12**	3.5±0.17	2.8±0.11**
HDL-C, mmol/l	1.08±0.06	1.23±0.03*	1.09±0.05	1.11±0.03*
TG, mmol/l	1.98±0.07	1.74±0.06**	1.97±0.07	1.78±0.05**
FBS, mmol/l	6.2±0.13	5.2±0.07***	6.2±0.12	5.4±0.07***
HbA1c, %	6.1±0.12	5.1±0.10***	6.2±0.13	5.4±0.11***
Insulin, mcU/ml	17.1±0.43	14.3±0.41**	17.3±0.45	15.5±0.40**
HOMA-IR, mcU/ml	4.9±0.19	3.5±0.16**	4.9±0.20	3.9±0.15**

Notes: 1. * – significance of differences compared to the original data; 2. * – p<0.05; 3. ** – p<0.01; 4. *** – p<0.001.

At the same time, the patients in the main group had a more pronounced decrease in TC (p<0.01), LDL–C (p<0.05), as well as a significant increase in the antiatherogenic fraction of HDL–C (p<0.05) compared to the patients of the comparison group. These time change appears to be the result of a direct action of magnesium on the process of atherogenesis, which helps to reduce the risk of micro– and macroangiopathies [5].

On the background of the conducted therapy, a significant improvement of the parameters of the carbohydrate profile was observed in patients of both groups compared to the baseline data (Table 1). At the same time, more significant changes in FBS, HbA1c, fasting insulin level, HOMA–IR index (p<0.05) were observed in patients of the main group. The data obtained confirm the effect of magnesium on various units of a single pathological mechanism – insulin resistance [4]. Following the correction of magnesium levels in patients with AH and type 2 DM, there was an increase of insulin sensitivity (a significant decrease in the HOMA–IR index) and an improvement in metabolic control (a significant decrease in FBS, HbA1c) in contrast to group 2.

On the background of treatment in patients of group 1 a greater reduction of office BP was observed: SBP by 28.9±3.6 mm Hg (p<0.001) and DBP by 16.4 mm Hg. (p<0.001) compared with group 2 by 18.5 mm Hg (p<0.01) and 9.1 mm Hg (p<0.05) respectively (Table 2). At the same time, the target BP level was reached by 93.8% of patients in group 1 and 89.3% of patients in the comparison group.

According to DMBP after 8 weeks of treatment, the patients in the main group showed a significantly more pronounced decrease of maximal SBP at day and maximal SBP and DBP at night than in the comparison group (table 2).

Table 2

Change of the indicators of office BP and DBPM under the therapy (M±m)

Indicator	Group 1 (n=32)		Group 2 (n=28)	
	Before treatment	After treatment	Before treatment	After treatment
1	2	3	4	5
Sphygmomanometry:				
SBP, mm Hg	156.5±4.5	127.6±3.4***	157.2±4.6	138.7±3.1**
DBP, mm Hg	95.7±3.6	79.3±2.6***	96.1± 3.2	87.0±2.5*
DBPM				
SBP (24), mm Hg	148.5±3.3	130.6±2.4*	149.3±3.5	138.1±2.3*
DBP (24), mm Hg	94.5±2.3	80.9±2.1*	93.9±2.3	85.5±2.1*
TISBP (24), %	69.5±7.9	15.9±5.9**	69.3±7.2	22.3±6.5**
TIDBP(24), %	59.7±7.1	12.1±5.8**	59.5±7.2	16.3±5.1**
SBP (D), mm Hg	148.3±3.3	126.7±2.9*	140.8±3.3	131.8±2.4*
DBP(D), mm Hg	95.9±2.5	80.3±2.3*	96.4±2.3	85.9±3.5*
TISBP(D), %	62.5±6.6	19.4±5.7**	63.3±7.1	23.3±5.2**
TIDBP(D), %	57.2±8.8	15.1±7.1*	58.1±8.5	19.8±7.1**
SBP(N), mm Hg	140.7±3.3	122.9±3.1*	141.5±3.5	129.3±3.3*
DBP(N), mm Hg	89.9±2.3	78.3±2.1*	85.1±3.6	83.3±2.3*
TISBP (N), %	71.3±9.8	11.9±7.8*	71.6±9.7	15.7±9.3*
TIDBP (N), %	52.4±8.3	10.1±8.1*	52.5±8.5	12.3±8.6*

Notes: 1. * – significance of differences compared to the original data; 2. * – $p<0.05$; 3. ** – $p<0.01$; 4. *** – $p<0.001$.

After treatment, an improvement in the indicators characterizing QL in both groups of patients with AH and type 2 DM (Table 3) was observed.

Table 3

Time change of life quality parameters for patients with AH and type 2 DM in the course of treatment (M±m)

SF–36 questionnaire scales, points	Observation period	Control group	Group 1 (n=32)	Group 2 (n=28)
Physical activity	At baseline	86.9±2.6	63.4±2.9	66.2±2.8
	After treatment		84.6±2.4*	75.5±2.5*
The role of physical problems in disability	At baseline	73.6±2.5	48.3±2.5	47.9±2.7
	After treatment		72.0±2.3*	62.1±2.5*
Body pain	At baseline	76.9±3.8	36.9±3.6	37.1±3.5
	After treatment		75.4±3.3*	58.7±3.3*
General health perception	At baseline	82.1±3.7	55.3±3.8	55.8±3.7
	After treatment		76.8±3.6*	66.9±3.3*
Vitality	At baseline	69.1±2.1	60.5±2.5	60.1±2.6
	After treatment		67.3±2.1*	64.7±2.5*
Social activity	At baseline	82.3±3.3	66.8±3.5	66.9±3.6
	After treatment		81.1±3.3*	76.7±3.5*
The role of emotional problems in disabilities	At baseline	69.5±3.1	42.4±2.9	43.5±2.7
	After treatment		69.5±2.5*	65.7±2.3*
Mental health	At baseline	73.7±3.1	57.1±3.3	57.5±3.4
	After treatment		71.3±2.8*	61.9±2.9*
The health compared with the previous year	At baseline	61.3±3.3	60.8±3.5	60.4±3.6
	After treatment		63.3±3.0	62.7±3.1

Notes: 1. * – significance of differences compared to the original data; 2. * – $p<0.05$.

Analysis of the obtained data showed that in patients of group 1, on the background of basic therapy with addition of magnesium orotate, a significant increase in QL was observed on almost all scales characterizing physical (physical activity, role of physical problems in disabilities, body pain, general perception of health) and mental health (vitality, social activity, mental health). In patients of group 2, a significant improvement was observed only on the scales of physical health (physical activity, role of physical problems in disability, body pain, general perception of health). Moreover, on the scales characterizing mental health (vitality, social activity, mental health) an observed positive time change was unreliable.

It has been demonstrated that magnesium deficiency can play an important role in the development of both AH [1] and DM 2 [5]. It was shown that the elimination of magnesium deficiency in the blood of patients with AH is accompanied by an increase of the efficacy of antihypertensive therapy [7]. However,

the effect of the pharmacological correction of magnesium deficiency with comorbidity of AH and type 2 DM on the progression of both diseases and the efficacy of the therapy remains poorly studied. The data obtained indicate that an inclusion of magnesium orotate in the complex therapy of patients with AH and type 2 DM with hypomagnesemia is accompanied by a significantly larger decrease in maximum values of SBP and DBP within 24 hours, a decrease in the variability of BP, which, apparently, is associated with a stimulating effect of magnesium orotate on the endogenic synthesis of nitric oxide and endothelial function [7]. On the background of hypomagnesemia correction, a significant improvement of indices of carbohydrate metabolism, an additional more pronounced decrease of atherogenic lipoprotein fractions in patients taking magnesium orotate, as well as a significant increase of antiatherogenic fraction of HDL, what reflects a direct effect of magnesium on the process of atherogenesis and indirect effect by a decrease of the degree of insulin resistance, have been noted. It allowed to achieve more significant results in the improvement of the quality of life of patients of the main group. The results of the study demonstrated perspectiveness of further clinical trials, in which attention would be paid to the shown changes in central hemodynamics, indices of lipid metabolism and carbohydrate blood profile in patients with comorbidity of AH and type 2 DM.

Thus, an inclusion of magnesium orotate in the therapeutic complex in patients with AH and type 2 DM with hypomagnesemia increases the efficacy of antihypertensive therapy, improves BP daily profiles, positively affects glucometabolic parameters and quality of life in this category of patients.

Conclusions

1. Addition of magnesium orotate to the combination therapy of patients with AH and type 2 DM with hypomagnesemia allows to achieve the target levels of magnesium in the blood serum, increase efficacy of lipid–lowering therapy and hypoglycemic drugs.

2. On the background of the combination therapy for patients with AH, type 2 DM and hypomagnesemia, it was found that antihypertensive efficacy had been more significant in the group receiving additional magnesium orotate.

3. The inclusion of magnesium orotate in the complex treatment of patients with AH and type 2 DM with hypomagnesemia for 8 weeks allows to improve the quality of life of patients on all scales of the questionnaire. In patients of the comparison group, a significant improvement was observed only on the physical health scales, while on the scales of mental health, the observed positive time change was unreliable.

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Реферати

ЕФЕКТИВНІСТЬ ФАРМАКОЛОГІЧНОЇ КОРЕКЦІЇ ДЕФІЦИТУ МАГНІЮ У ХВОРИХ НА АРТЕРІАЛЬНУ ГІПЕРТЕНЗІЮ ТА ЦУКРОВИЙ ДІАБЕТ 2 ТИПУ

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Метою дослідження було оцінити ефективність терапії з додаванням оротату магнію у пацієнтів з АГ і ЦД 2 типу з гіпомагніємією. Обстежено 60 хворих з АГ та ЦД 2 типу з гіпомагніємією. Після реєстрації вихідних даних усім пацієнтам призначалась базисна терапія, з яких 32 пацієнтам (1 група) додатково – оротат магнію протягом 8 тижнів і 28 пацієнтів склали

ЭФФЕКТИВНОСТЬ ФАРМАКОЛОГИЧЕСКОЙ КОРРЕКЦИИ ДЕФИЦИТА МАГНИЯ У БОЛЬНЫХ АРТЕРИАЛЬНОЙ ГИПЕРТЕНЗИЕЙ И САХАРНЫМ ДИАБЕТОМ 2 ТИПА

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Целью исследования было оценить эффективность оротата магния у пациентов с артериальной гипертензией (АГ) и сахарным диабетом (СД) 2 типа с гипомагниемией. Обследовано 60 больных с АГ и СД 2 типа с гипомагниемии. После регистрации исходных данных всем больным назначалась базисная терапия, из которых 32 пациентам (1 группа) дополнительно назначали оротат магния на протяжении 8 недель

групу порівняння. Встановлено, що антигіпертензивна ефективність терапії була більшою в 1 групі. Визначено більш виражену позитивну динаміку показників ліпідного обміну та вуглеводного профілю, показників якості життя у пацієнтів 1 групи. Таким чином, включення в терапевтичний комплекс оротату магнію пацієнтам з АГ і ЦД з гіпомагніємією підвищує ефективність гіпотензивної терапії, позитивно впливає на глюкометаболічні параметри та якість життя у цієї категорії хворих.

Ключові слова: дефіцит магнію, артеріальна гіпертензія, цукровий діабет 2 типу, добовий моніторинг артеріального тиску, лікування

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и 28 пациента составили группу сравнения. После лечения отмечено, что у пациентов 1 группы антигипертензивная эффективность оказалась более выраженной; наблюдались более значимые положительные изменения показателей липидного и углеводного обмена и улучшением показателей качества жизни. Таким образом, включение оротата магния к базисной терапии у пациентов с АГ и СД 2 типа с гипомагниемией повышает эффективность гипотензивной терапии, положительно влияет на глюкометаболические параметры и качество жизни у этой категории больных.

Ключевые слова: дефицит магния, артериальная гипертензия, сахарный диабет 2 типа, суточный мониторинг артериального давления, лечение

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HEALTHCARE SYSTEM REFORMING IN UKRAINE IN THE CONTEXT OF PRIVATE HEALTH CARE SYSTEM EXPANSION

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The analysis and assessment of the peculiarities of practical implementation of the health care system reform in the context of private health care system expansion in the political decentralization processes and the local self-government reform in Ukraine was performed in the article. The conditions and features of the implementation of the National Health Reform Strategy for Ukraine 2015-2025 in terms of ensuring the effective organization of the health care system, in particular in the context of private health care system expansion have been studied. Prospects for further research on the conditions and ways to improve the system of medical care in Ukraine were proposed.

Key words: political decentralization, medical reform, health care system, private health care system, health expenditures.

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Ukrainian society has once again found itself at the epicenter of modern reforms in various fields. The relevance of the studied problem is that every citizen, as well as the state as a whole, became participants in reforms at different levels. In August 2014, the processes of political decentralization led to the initiation by the Ministry of Health to develop the National Health Reform Strategy for Ukraine 2015-2025 [9]. The strategy outlined the main directions of reform in the field of health care and service provision, financing of the health care system, management and pharmaceuticals. Decentralization and grassroots initiatives, according to strategic plans, should become a new reality in the branch, and the Ministry of Health of Ukraine should not solve all the problems of the medical sphere alone [8]. In addition, public and professional medical organizations must be aware of their responsibility for the future of the field in which they are engaged or where they have experience. The importance of the study is evidenced by its relevance, which confirms the significant number of available publications [1, 4, 5, 9, 11], as well as the hope of Ukrainian citizens that we have every chance to become a country without broken roads, abandoned villages and destroyed houses. It is possible to achieve these results, but to do this, not only communities need to believe in reform, gain power, resources and join responsible self-government, and the state must not only "de jure" prescribe all the processes, but also try to implement them "de facto" as much as possible.

The purpose of the study was to study and analyze the specifics of the health care system reforming and its implementation in the context of private health care system expansion under the conditions of political decentralization in Ukraine.

Materials and methods. In the course of the study, the authors used the materials and methodology of the World Bank to determine the advantages and disadvantages in the public services provision, adapted to the conditions of the Ukrainian health care system, which is based on a survey on health issues in different regions of Ukraine. In addition, on the basis of statistical data of decentralization monitoring in