European Journal of Molecular & Clinical Medicine
ISSN 2515-8260 Volume 07, Issue 03, 2020

Comparative Assessment On The Effect Of Different Methods Of Corrective Therapy On Lipid Metabolismand Homeostatic Renal Function.

Ishkabulova G.J[1],KhaidarovaKh.R[2], Kudratova G.N.[3], Kholmuradova Z.E[4].
Assistants of the Department
Department of Pediatrics, Faculty of Therapeutics
Samarkand State Medical Institute

SUMMARY. In total 60 children were examined, over 22 of mature newborns are born from healthy parents , 20 newborns are born from mothers with OPG-gestosis, and 18 newborns born from mothers with OPG-gestosis combined in chronic pyelonephritis . It was identified that in children with complicated course of disease, inheritability was rarely aggravated, the disease was followed by epiphenomenon , in the main group of newborns were observed a low level of of glomerular filtration, tubular reabsorption of acidogenesis, which were
associated by a disproportion of the phospholipid spectrum of erythrocyte membranes due to the increased blood activity and LPO.
KEY WORDS: Gestosis, combined pyelonephritis ,newbown , kidney ,function , LPO, membrane.

1. THE URGENCY OF THE PROBLEM

. The most important condition for a successful outcome of the gestational period and the birth of full-fledged offspring is the absence of extragenital pathology in a pregnant woman (10,12), since pathology leading to high peri- and neonatal morbidity and mortality is formed in the antenatal period (1,2). In recent years, against the background of a decrease in the quality of the reproductive health of women of fertile age (8), the number of children with adverse factors in ontogenesis has increased by 80-85% (4.16). One of the reasons for the increased frequency of gestosis in the population of pregnant women is the increase in the number of people with kidney disease (9,14,13). According to epidemiological studies, every fourth woman aged 15 to 49 suffers from chronic pyelonephritis (5). Many works are devoted to these questions in the special literature (15.3). However, with all the obviousness of the unfavorable influence of both chronic pyelonephritis and OPG-gestosis of pregnancy on the development of the fetus and the adaptive abilities of the newborn, the peculiarities of their combined influence deserve special attention.

2. OBJECTIVE:

To establish the features of the adaptive capabilities of renal function in newborns born to mothers with OPG-gestosis, combined chronic pyelonephritis about the features of lipid

metabolism, phospholipid structure of erythrocyte membranes and the formation of homeostatic renal functions in newborns in the early neonatal period are aimed at the need for mandatory corrective therapy.

3. MATERIALS AND RESEARCH METHODS.

The first group of newborns consisted of data from 22 healthy children (control) and, naturally, they were not given any special prescriptions. Taking into account the peculiarities of metabolic adaptation in newborns from mothers with pyelonephritis, consisting of 20 newborns, basic therapy was used, supplementation with vitamin E at a dose of 5 mg / kg for 5 days. At the same time, we proceeded from modern concepts of dysadaptation syndromes as states of oxidative stress, and therefore, we believe that α-tocopherol in such situations should be an integral part of basic therapy.

For the next-third group of newborns, for a comparative assessment of basically the same basic corrective therapy with the previous group, the membrane-protective drug dimephosphon was used in the finished dosage form of a 15% aqueous solution for oral use at the rate of 50 mg / kg of body weight, also for 5-7 days ... This group consisted of 18 newborns from mothers of patients with chronic pyelonephritis with layering of OPG-gestosis of 2 and 3 degrees of severity.

The role of membrane-destructive processes was judged by the phospholipid structure of erythrocyte membranes (16), the state of peroxidation by the level of malondialdehyde (MD) according to I.D. Stalnaya et al. (15), as well as the phospholipase activity of blood according to H. Brokerhoff, I.R. Jenson (1978). Comparative assessment of the homeostatic functions of the kidneys was carried out according to the clearance of endogenous creatinine according to Van Slayke (8). The numerical data were processed by the method of variation statistics with the calculation of the reliability of numerical differences.

4. RESEARCH RESULTS AND THEIR DISCUSSION.

Analysis of the data obtained on the formation of homeostatic functions of the kidneys in healthy newborns showed that the excretory function of the kidneys according to the data of diuresis, clearance of endogenous creatinine, uric acid in the early neonatal period naturally increases from 2 to 7 days of life.

Distinct dynamics were observed in the indices of ammonio-acidogenetic, ion-regulating and osmoregulating renal function ($P<0.05$-0.01). These functional changes proceeded against the background of an increase in the content of LPC, SFM in the erythrocyte membranes during the physiological adaptation of the newborn to extrauterine life, and a decrease in PC. At the same time, there was a decrease in MDA from 4.2 ± 0.24 to 3.1 ± 0.27 mmol / mg lipids.

The revealed changes indicate deep disturbances in the structural and functional state of cytomembranes and aim at the need not only to compensate for the deficiency of antioxidants, but also to membrane protective therapy.

It should be noted that the indicators of the main functions of the kidneys, the spectrum of lipids and MDA in the compared main groups are essentially of the same type. The basic, generally accepted complex corrective therapy of α-tocopherol supplementation had a clear positive effect on the clinical condition of the newborn and the studied laboratory parameters.

Complex therapy with the inclusion of α-tocopherol led to: a significant improvement in metabolic disorders: a statistically significant increase in the level of total lipids, phospholipids, NEFA, and a decrease in the content of free cholesterol, as well as LPC, SFM, PEA. MDA in erythrocyte membrane. In fact, the indices of total lipids, NEFA, triglycerides, SFM, PC, PEA were normalized and did not statistically differ from the control group. However, a number of indicators of lipid metabolism at the same time had a clear positive dynamics, were still far from normalization.

Thus, the level of phospholipids significantly increased compared to the baseline values, but remained significantly low compared to the control group.

A similar situation was observed in the dynamics of the levels of SH, LFH, MDA.

Consequently, the use of basic therapy supplemented with vitamin E in newborns born to mothers suffering from chronic pyelonephritis and OPH-gestosis to correct dysadaptation syndromes, leading to a significant improvement in metabolic processes, reduces the risk of developing hypoxic lesions, but does not completely eliminate them, despite the clear clinical effect, a number of biochemical markers of increased stimulation of LPO are preserved, which we consider as a preserving high development of membrane-pathological processes - reliably high indicators of LPC, MDA with a relatively low level of PC.

So, the results of the data obtained show that with complex corrective therapy with the inclusion of vitamin E, the dynamics of the patient's condition improved, muscle dystonia disappeared, physiological reflexes revived: the child began to suckle the breast, the skin turned pink, the edema disappeared. The use of vitamin E improved the indicators of nitrogen metabolism, the phospholipid spectrum of membranes, reduced the level of LPC and led to the normalization of lipid peroxidation indicators: total lipids increased from 2.7 to 4.9 g / l, total phospholipids from 6.9 to 13.6% in almost 2 the level of PC in the membranes of erythrocytes increased by times and LPC decreased, the level of MDA decreased.

However, as can be seen from the conducted data, the levels of PL, TG, PC and higher LPH and MDA remain, in comparison with the indices in healthy animals by this age, i.e. by the end of the early neonatal period in children of this contingent, in comparison with healthy newborns, the modification of the phospholipid composition of erythrocyte membranes is delayed, although there is a distinct antiradical activity of α-tocopherol. This circumstance served as the basis for additional inclusion in the complex corrective therapy of the membrane-protective drug - dimephosphon (group 3).

The dynamics of the spectrum of lipids and phospholipids of erythrocyte membranes in newborns with dysadaptation syndromes when prescribing dimephosphon against the

background of complex corrective therapy had a similar orientation and were more clearly positive in relation to indicators of total lipids, PL, CX, NEZhK. (TABL # 1)

Consequently, the cooperative use of α-tocopherol and dimephosphone in the complex corrective therapy of maladaptive states in newborns born to mothers with chronic pyelonephritis and OPG-gestosis allows achieving faster and more complete normalization of lipid metabolism, phospholipid spectrum of erythrocyte membranes, i.e. increasing the stability of cell membranes.

In newborns from mothers of patients with chronic pyelonephritis and OPG-gestosis, the function of ammonio-acidogenesis is clearly suppressed. Against the background of basic therapy on the 7th day of life, along with other indicators, the level of ammonia excretion significantly increases and the level of titratable acids only moderately increases. In contrast, in the group of newborns who simultaneously received dimephosphone, the level of ammonia excretion reaches 2.09 ± 0.27 meq / day, titratable acidity 1.72 ± 0.31, which correspond to the indicators of the group of healthy newborns.

Thus, the use of a composition of antioxidants (α-tocopherol) and membrane protectors (dimephosphone) in the complex corrective therapy of maladaptive syndromes in newborns born to mothers of patients with chronic pyelonephritis and OPH-gestosis can significantly improve the effectiveness of treatment, and also revealed an improvement in the general condition of patients, slowing ESR, reducing the degree of leukocyturia and proteinuria. An improvement in the concentration function of the kidneys has been noted, has a normalizing effect on the rate of lipid modification of cell membranes and the formation of homeostatic functions of the kidneys.

Table№1

Dynamics of the spectrum of blood lipids, phospholipids of erythrocyte membranes and MDA in newborns with dysadaptation syndromes, depending on treatment methods (M ± m)

Groups	Control Group (n=22)	Studygroups	
Indicators		Basic therapy + vitamin E n = 20	Those who received dimephosphon, n = 18
OL, g / l	4,76±0,50	4,26±0.32 P>0,5	4,62±0,32 P>0,5,P_1>0,5

FL%	14,9±1,12	10,3±0,71 P<0,05	13,1±0,71 P<0,05,P_1<0,05
XC%	18,2±1,3	20,9±0,43 P<0,05	19,1±0,38 P>0,5,P_1<0,05
NEJK	8,8±1,28	7,6±0,65 P>0,05	8,3±0,23 P>0,5,P_1>0,05
TG	17,6±0,36	17,2±0,21 P>0,5	18,1±0,47 P>0,05,P_1>0,05
LFH	13,7±0,86	15,7±0,19 P<0,05	14,1±0,27 P>0,05,P_1<0,05
SFM	26,1±1,21	27,9±0,37 P>0,05	26,7±0,32 P>0,5,P_1<0,05
FH	31,2±1,8	29,2±0,58 P>0,05	31,6±0,51 P>0,5,P_1<0,05
MDA, NMOL / MG LIPIDOV	3,12±0,29	5,06±0,26 P<0,01	3,82±0,25 P>0,05,P_1<0,05

Note: P - reliability of differences between indicators of the main and control groups, P1 - reliability of differences between indicators of main groups.

5. CONCLUSIONS

1. In newborns from mothers with chronic, "fetopathy" is observed due to chronic fetal hypoxia, which is expressed by a violation of the stability of the cytomembranes: the accumulation of LPC SF against the background of a decrease in PC, PEA, NEFA, as well as an increase in the level of MDA
2. Installed. that the degree of impairment of homeostatic functions and changes in lipid peroxidation in newborns depends on the severity of aggravating factors during intrauterine development. The combined effects of infection (chronic pyelonephritis)

and toxic agents (OPG-gestosis) cause the most profound and persistent violations and require special corrective measures.

3. The use of α-tocopherol in combination with dimephosphone from the first day of life during the entire early neonatal period in newborns from mothers with chronic pyelonephritis with gestosis of α-tocopherol helps to reduce the activity of lipid peroxidation of cytomembranes, and thereby increase the stability of cell membranes, improve the homeostatic functions of the kidneys.

6. REFERENCES.

[1] Abdusalomov A.A. Group characteristics of newborns with fetal growth retardation syndrome. // Bulletin of the general practitioner, 1998, no.

[2] AbdullaevaN.Sh. Clinical and cytochemical characteristics of newborns with intrauterine growth and development retardation during early adaptation. // Pediatrics, Tashkent, 2000, No. 2-3.

[3] Akker LV, VarshavskyB.Ya., Elchaninova S.A. and other Indicators of oxidative and antioxidant status in pregnant women with gestosis. // Obstetrician. and gynecol., 2000, No. 4.

[4] Azimjonova M.M., Kurbonov D.D., Mukhammedzhanova D.K. Perinatal, neonatal morbidity and mortality and ways to reduce them in the Republic of Uzbekistan. // Pediatrics, Tashkent, 2000, No. 2,3.

[5] Balykova L.A. Balashov V.P., Shkolnikova M.A. et al. Efficiency of dimephosphone in cardiac arrhythmias in children. // Russian Bulletin of Perinatology and Pediatrics, 1999, No. 2 V.44.

[6] BaryshnevYu.I. The role of gestosis in the development of fetal and newborn pathology. "The problem of OPG-gestosis." // Abstracts., Cheboksary. 1996.

[7] Vetrov V.V. Influence of detoxification therapy on the state of the fetoplacental system in gestosis, which developed against the background of chronic pyelonephritis. // obstetrician and gynecologist. 2000. No. 4.

[8] VeltischevYu.E., Yurev'eva E.A. Study of renal function // Handbook of functional diagnostics in pediatrics. M., 1979. p. 381-426

[9] VeltischevYu.E., Yurevieva E.A. On the importance of laboratory diagnostic methods for preventive pediatrics. // Russian Bulletin of Perinatology and Pediatrics, 2000, No. 5.

[10] Zakirkhodzhaeva D.A. the state of activity of monooxogenases in the mother-placenta-fetus system and perinatal outcome. Mater. 4 congresses of pediatricians of Uzbekistan, Tashkent. 2000.

[11] Zelentsova V.P., Shilko V.I., MedvedevaS.Yu. Pathomorphology of the kidneys of fetuses and newborns undergoing hypoxia. Mater. 9 Congress of Pediatricians in Russia.-M., 2001.

[12] Ishkabulov D., Abdurakhmanova S., Dysmetabolic nephropathy in children. Tashkent, Ibn-Sino, 1997,

[13] Karzheva E.E. Baleeva A.S. Thyroid condition. peripheral blood and the immune system in children living in areas exposed to radiation. // Russian Bulletin of Perinatology and Pediatrics., 2001, No. 6
[14] Papayan A.V., Styapsikina I.S. Neonatal nephrology (practical guide.). St. Petersburg., 2002, 448p.
[15] Stalnaya I.D., Garishvili T.G. Method for the determination of malondialdehyde of unsaturated higher fatty acids // Modern methods in biochemistry. M., 1977, p. 66-68.
[16] Krylov V.I., Vinogradova A.F. Ermeeva S.I. et al. Method of thin-layer chromatography of lipids of erythrocyte membranes. Labbusiness, 1975, no. 4, p. 205-206