Реферати

ПАТОГЕНЕТИЧЕСКОЕ ОБОСНОВАНИЕ СИСТЕМНОЙ ПРОФИЛАКТИКИ И ТЕРАПИИ ИНФЕКЦИОННО-ВОСПАЛИТЕЛЬНЫХ ПОРАЖЕНИЙ ПЛОДА ЖЕНЩИН, СТРАДАЮЩИХ МАТЕРИНСКО-ПЛОДОВОЙ ИНФЕКЦИЕЙ

Пасиешвили Н.М., Вдовиченко Ю.П., Карпенко В.Г., Лазуренко В.В.

Проведены: ретроспективный анализ причин перинатальной заболеваемости и смертности у 14276 женщин; инфекционный мониторинг 1043 беременных с инфекционно-воспалительным поражением плода (ИВПП); обследовано 50 беременных с антенатальной гибелью плода; патоморфологическое и иммуногистохимическое исследование 55 плацент от беременных с ИВПП; оценка эффективности комплексного лечения и профилактики ИВПП у 423 беременных, страдающих материнско-плодовой инфекцией, с использованием иммунокорректоров и озонотерапии. На основании результатов исследования доказано, что патогенез ИВПП включает комплексное нарушение цитокинового статуса, эндотелиальную дисфункцию, оксидативный стресс в организме беременной, что обусловлено типом инфицирования, вызывает осложнения беременности и родов, повышает перинатальную заболеваемость и смертность. Комплексное лечение и профилактика ИВПП назначением иммунокорректоров и озонотерапии приводит к нормализации иммунного, эндотелиального гомеостаза, способствует уменьшению количества инфекционных осложнений у новорожденного, не имеет побочных эффектов. В результате повышается эффективность лечения беременных с материнско-плодовой инфекцией, снижается количество акушерских осложнений и улучшаются перинатальные показатели.

Ключевые слова: перинатальная заболеваемость, инфекционный мониторинг беременных, инфекционно-воспалительные поражения плода.

Стаття надійшла 15.07.18 р.

PATHOGENETIC SUBSTANCE OF SYSTEMIC PREVENTION AND THERAPY OF INFECTIOUS-INFLAMMATORY LESIONS OF THE FETUS OF WOMEN SUFFERING MATERNAL AND FETAL INFECTION

Pasiyeshvili N.M., Vdovychenko Yu.P., Karpenko V.G., Lazurenko V.V.

A retrospective analysis of the causes of perinatal morbidity and mortality in 14276 women is performed as well as infectious monitoring of 1043 pregnant women with infectious-inflammatory lesions of the fetus (IILF); 50 pregnant women with antenatal fetal death are examined; pathological and immunohistochemical study of 55 placentas from pregnant women with IILF; evaluation of the effectiveness of complex treatment and prevention of IILF in 423 pregnant women suffering maternal and fetal infection using immunocorrectors and ozone therapy.

Based on the results of the study, it is proved that the pathogenesis of IILF includes a complex cytokine dysfunction, endothelial dysfunction, oxidative stress in the organism of a pregnant woman (which is due to the type of infection), causes complications of pregnancy and labour, increases perinatal morbidity and mortality. Comprehensive treatment and prevention of IILF by prescription of immunocorrectors and ozone therapy lead to normalization of immune and endothelial homeostasis, promote the decrease of infectious complications in newborns, have no side effects. As a result, we observe increase in treatment effectiveness of pregnant women suffering maternal and fetal infection, decrease in the number of obstetric complications and improvement in perinatal indicators.

Key words: perinatal morbidity, infectious monitoring of pregnant women, infectious-inflammatory lesions of the fetus.

Рецензент Ліхачов В.К.

DOI 10.26724/2079-8334-2019-2-68-100-104
UDC 616.127-005.8-037:575:611.018.74

O.V. Petyunina, M.P. Kopytsya
SI "L.T. Malaya Therapy National Institute, NAMS of Ukraine", Kharkiv

RISK FACTORS AND ENDOTHELIN-1 (rs5370) GENE POLYMORPHISM IN PATIENTS WITH MYOCARDIAL INFARCTION WITH ST SEGMENT ELEVATION

e-mail: o_petyunina@ukr.net

The purpose of the work was to study the associations between Lys198Asn gene polymorphism (EDN-1) and clinical-anamnestic data in patients with ST segment elevation myocardial infarction (STEMI). The total of 91 patients with STEMI, 70 (77%) – men and 21 (13%) - women, of the middle age of 60,3±9,4 were enrolled into the study. Traditional cardiovascular risk factors, anxiety and depressive disorders were determined. Polymerase chain reaction was used to determine Lys198Asn allelic polymorphism of EDN-1 gene. The possibility of STEMI occurence was by 3.19 times higher in male with LysAsn+AsnAsn genotype of EDN-1 gene (χ^2=4.01, P=0.043); in those with arterial hypertension – by 3.72 times higher (χ^2 =4.31, P=0.038), smoking – by 2.06 (χ^2=4.66, P=0.031), and it was associated with more expressed coronary injury. Anxiety and depression were manifested in higher degree in patients with STEMI and LysAsn+AsnAsn polymorphism of EDN-1 gene. Based on the results obtained, the authors come to the conclusion that LysAsn+AsnAsn polymorphism of EDN-1 gene is associated with higher degree of cardiovascular risk factors in patients with STEMI.

Key words: Lys198Asn gene polymorphism, EDN-1, STEMI, cardiovascular risk factors.

The study is a fragment of the research project "To study the biochemical, genetic mechanisms of reperfusion damage of the myocardium and to assess the cardioprotective effect of antiplatelet therapy in acute myocardial infarction", state registration No. 0117U003028.

Endothelial dysfunction is a key chain of pathogenesis of coronary artery disease in all its manifestations, an important role in its implementation belongs to the system of endothelins, the strongest of which is endothelin-1 (ET-1). Endothelin-1 is formed in endothelial cells, smooth muscle of vessels, astrocytes, neurons and other cells, causes systemic and coronary vasoconstriction, it is characterized by

proliferative activity, enhancement of sympathetic activity, formation of renin, angiotensin-II, aldosterone. For ET-1 also characterized proatherogenic properties, its activity promotes the expression of adhesion molecules, platelet aggregation. Acute myocardial infarction (AMI) and its experimental models are accompanied by significant activation of cardiac ET-1 expression and by its level increase in the bloodstream. Positive correlation between ET-1 and the necrotic damage depth complicated by the course of AMI was established. Blockade of ET-1 receptors in AMI contributed to the positive effect on survival, morphology and myocardial function [1, 9].

Among the single-nucleotide polymorphisms of the ET-1 gene, the largest prevalence in clinical and genetic studies was acquired by its Lys198Asn polymorphism studies. Endothelin-1 gene (EDN-1) is located on the 6p24-p23 chromosome and consists of 5 exons. Replacing of G/T at position 594 of a single-nucleotide sequence, leading to the replacement of lysine (Lys) amino acid with asparagine (Asn) at position 198, changes the protein structure and the enzymes activity. It was found that Asn allele and AsnAsn genotype were associated with higher levels of ET-1 in blood compared with the Lys allele and LysLys genotype carriers [8]. The results of clinical and population studies provided evidence that the Asn Asin genome and Asn allele compared to Lys revealed a higher incidence of arterial hypertension (AH), more severe AH manifestations and hypertensive heart [12], a high risk of developing coronary artery disease (CAD), especially in AH patients [13], an increase in the incidence of MI among women without angiographic signs of coronary atherosclerosis [2], formation of ischemic genesis CHF [7], an increased risk of ischemic atherothrombotic stroke [3]. However, association of the Lys198Asn structural polymorphism of the EDN-1 gene with the development and features of the acute myocardial infarction course with the ST segment elevation (STEMI) has not been studied sufficiently.

The purpose of the work was to study the associations of Lys198Asn polymorphism of the EDN-1 gene with the clinical and anamnestic indices of STEMI patients.

Materials and methods. The "case-only design" study involved 91 patients with STEMI, 70 (77%) men and 21 (13%) women, of a middle age (60.3 ± 9.4). The STEMI diagnosis was established in accordance with the recommendations of the European Society of Cardiologists (2017) and the MOH of Ukraine Order No. 455 dated 02.07.2014. The study was carried out in accordance with the Helsinki Declaration provisions, the protocol of the study was agreed with the Ethics and Deontology Commission of the GI "L.T.Malaya TNI NAMSU". Protocol No. 8 dated August 29, 2016.

Distribution of revascularization tactics: the total of 56 (61.5%) patients were subjected to the primary percutaneous coronary intervention (PCI) using bare-metal coronary stent; 20 (22.0%) patients – to the primary thrombolysis followed by PCI for 24 hours; 4 (4.4%) - only to thrombolysis; 11 (12.1%) patients refused intervention for personal reasons. Adjuvant therapy was carried out in accordance with current recommendations. Hypercholesterolemia (HCE) was determined in accordance with the recommendations of the European Society of Cardiologists for dyslipidemia treatment, 2016. Arterial hypertension was diagnosed according to the recommendations of the European Society of Cardiologists for the diagnosis and treatment of arterial hypertension, 2013. Obesity was measured by the body mass index (BMI): over 30 kg / m2. The level of anxiety before the STEMI development was assessed using the Taylor questionnaire. Depression and anxiety were also assessed using HADS (heart anxiety and depression scale) and DASS-21 (depression, anxiety, stress) questionnaires. Studies of the allelic Lys198Asn (rs5370) polymorphism of the EDN-1 gene were carried out by polymerase chain reaction with an electrophoretic result detection scheme. The study was carried out at the Immuno-Biochemical and Molecular Genetic Studies Laboratory of the GI "L.T. Malaya TNI NAMSU". The statistical processing of the data obtained was performed using the Statistica 8.0 software package (Stat Soft Inc, USA), the distribution normality analysis is presented as a median (Me), with upper (UQ) and lower (LQ) quartile sampling. Standard deviation for normal distribution is presented as a mode (Mo) and an interquartile interval (IQI) for abnormal distribution. To assess intergroup differences, the ANOVA method was used to determine U - Mann Whitney and Wald-Wolfowitz criteria, χ^2. For all types of analysis, differences were considered statistically significant at $P < 0.05$.

Results of the study and their discussion. Distribution of alleles and genotypes by the Lys198Asn polymorphic marker of the EDN-1 gene in STEMI patients complied with the Hardy-Weinberg equilibrium and showed the following frequency of alleles: Lys - 51.6% and Asn - 48.4%; LysLys, LysAsn and AsnAsn genotypes - 45%, 41% and 14% (41, 37 and 13 patients respectively), $P = 0.66$, $\chi^2 = 0.86$. Due to the low frequency of the AsnAsn genotype carrying status, a further analysis of clinical anamnestic data was performed in two groups: in STEMI patients with the LysLys genotype (n = 41) and in the carriers of LysAsn + AsnAsn genotypes (n = 50). Control group of healthy people complied with the Hardy-Weinberg

equilibrium and showed the following frequency of genotypes: LysLys, LysAsn and AsnAsn genotypes - 60%, 35% and 5% (12, 7 and 1 patients respectively).

Table 1

Clinical and anamnestic data of STEMI patients and polymorphism of EDN-1 (rs5370) gene

Index	LysLys n=41	LysAsn+AsnAsn n=50	M-U, χ^2, p	OR, p
Age	61.54±8.39	57.30±8.97	P=0.049	
Men	27 (65.9%)	43 (86.0 %)	χ^2 =4.01 p =0.043	3.19 [1.12-8.33]
Women	14 (34.1%)	7 (14.0 %)		
AH	29 (70.7%)	45 (90.0 %)	χ^2 =4.31 p =0.038	3.72 [1.16-10.58]
Diabetes mellitus type 2	17 (41.5 %)	8 (16.0 %)	χ^2 =6.11 p =0.014	0.27 [0.11-0.73]
Smoking	12 (29.3 %)	23 (46.0 %)	χ^2 =4.66 p =0.031	2.06 [0.85-4.77]
Hereditary tainted with CAD	26 (41.5 %)	33 (66.0 %)	χ^2 =2.34 p =0.126	
HCE	19 (46.3 %)	31 (62.0 %)	χ^2 =2.23 p =0.135	
BMI >30 kg/m^2	15 (34.1 %)	19 (38.0 %)	χ^2 =0.02 p =0.890	
Stable angina before MI	18 (43.9 %)	17 (34.0 %)	χ^2 =0.93 p =0.334	
Unstable angina before MI	13 (31.7 %)	23 (46.0 %)	χ^2 =1.92 p =0.165	
MI in past medical history	11 (26.8 %)	5 (10.0 %)	χ^2 =3.32 p =0.069	
Infarction localization				
Anterior	20 (48.9 %)	23 (46.0 %)	χ^2 =0.07 p =0.792	
Posterior	21 (51.2 %)	27 (54.0 %)		
Damaged vessels number (by the SCA data)				
Single	22 (53.7 %)	16 (32.0 %)	χ^2 =4.35 =0.037	
Two and more	19 (46.3 %)	34 (68.0 %)		
HF by Killip 1-2	35 (85.4 %)	45 (90.0 %)	χ^2 =0.12 =0.725	
HF by Killip 3-4	6 (14.6 %)	5 (10.0 %)		

Analysis of the odds ratio (OR) values for the STEMI development probability depending on the Lys198Asn polymorphism of the EDN-1 gene showed a number of differences among the factors of cardiovascular risk (Table 1). The presence of the Asn-allele in the EDN-1 gene was associated with an increased probability of MI in men compared to women by 3.19 times (χ^2 = 4.01, P = 0.043). Arterial hypertension contributes to the MI onset by 3.72 times more frequently than with the presence of LysAsn + AsnAsn genotypes compared to the carriers of the LysLys genotype of the EDN-1 gene (χ^2 = 4.31; P = 0.038); smoking – by 2.06 times (χ^2 = 4.66; P = 0.031). Associations with other traditional risk factors for which endothelial dysfunction is inherent (hereditary tainted family history, hypercholesterolemia, obesity) are not found. The history of coronary heart disease prior to the STEMI onset (stable, unstable angina, prior MI), features of the MI course (localization, complication with acute heart failure) in STEMI diseased carriers of LysLys genotype, according to the PCI data, two or more coronary vessels were significantly more likely to be detected in carriers with the Asn allele compared to the homozygote by the Lys allele (χ^2 = 4.35; P = 0.037).

Along with the classic cardiovascular risk factors used to characterize STEMI, the study analyzed association between the EDN-1 gene polymorphism variants of Lys198Asn and the presence of anxiety-depressive disorders (ADD). The basis for our work were numerous studies of the ADD correlation with coronary heart disease in all its manifestations, namely, according to the results of the multicenter study INTERHEART, conducted in 52 world countries, anxiety and depression ranked the 3rd among the MI risk factors.

Using Taylor, HADS, DASS-21 questionnaires (table 2), it was possible to detect in STEMI patients carrying heterozygotes and homozygotes with Asn minor alleles more expressed anxiety and depressive disorders (ADD) compared to the carriers of LysLys homozygotes in the main allele: anxiety increase by Taylor scale (P=0.043), depression by HADS (P=0.003), anxiety by DASS-21 (P=0.038), depression by DASS-21 (P = 0.036).

The data obtained in molecular genetic studies showed a higher concentration of peptide in the blood of the EDN-1 gene AsnAsn genotype carriers compared to those with LysLys. Thus, the carriers of the Lys198Asn polymorphic locus AsnAsn genotype of the EDN-1 gene revealed an elevated level of ET-

1 expression compared to the LysLys genotype carriers [7]; in men of the control group with complicated and uncomplicated AH, carrying of the Asn-allele determined a higher ET-1 level compared to the LysLys genotype [12]. The proofs of the Asn allele carriership correlation with arterial hypertension, CAD, CHF are produced.

Table 2

Data of anxiety and depressive disorders in STEMI patients depending on the Lys198Asn polymorphism of EDN-1 gene (rs5370)

Index	LysLys n=41	LysAsn+AsnAsn n=50	M-U, χ^2, p
Anxiety (Taylor, mean score)	13.50 [7.0-19.0]	18.5 [8.5-27.0]	0.043
Anxiety (HADS, mean score)	6.0 [3.5-8.0]	5.0 [4.0-7.0]	0.426
Depression (HADS, mean score)	4.0 [2.0-5.5]	8,0 [3.0-10.5]	0.003
Anxiety (DASS-21, mean score)	5.0 [3.0-6.5]	7.5 [5.0-12.0]	0.038
Depression (DASS-21, mean score)	7.0 [3.0-9.0]	10.5 [6.0-15.0]	0.036
Stress (DASS-21, mean score)	7.0 [5.0-12.0]	7.0 [4.0-11.0]	0.235

The results of the ECTIM study indicate the involvement of the EDN-1 gene Asn allele in the formation of hypertension in overweight individuals. In patients with hypertension, the carriership of TT-genotype (AsnAsn) is associated with a high risk of coronary artery disease (CAD), particularly with three-vessel involvement of coronary arteries [13]. In women with CAD without angiographic signs of coronary stenosis by the degree of pulmonary endothelial dysfunction, the T allele and the GT genotype occurred reliably more frequently; the frequency of MI with severe degree of endothelial dysfunction was 67.7% and with moderate dysfunction - 29.6%, respectively (P <0.001) [2]. However, Palacin M. et al. did not find associations between the EDN-1 gene polymorphism and the MI development in young men [11]. Thus, polymorphism of the EDN-1 gene Lys198Asn (G594T), its Asn allele and AsnAsn, LysAsn genotypes in patients with hypertension, diabetes, and smokers can be considered a factor contributing to the MI development. Significantly increased ADD severity in patients-carriers of AsnAsn and LysAsn MI is of particular interest compared to the EDN-1 gene LysLys genotype found using different scales: Taylor, HADS, and DASS-21. The correlation between markers of endothelial dysfunction and the anxiety, depression, psycho-emotional load level growth was found in patients with an increased risk of CAD [6, 14], in CAD with AH [4, 6]. The following interpretation of the obtained results is possible: stress, anxiety-depression activates the hypothalamic-pituitary-adrenal axis, sympatho-adrenal, renin-angiotensin-aldosterone systems, immune inflammation, hypercoagulation, thrombocytes aggregation, and endothelium dysfunction, all the above processes being part of this systemic response [4, 5]. In addition, high levels of ET-1 are found locally in the brain: it is a peptide formed in the endothelial cells of the microvessels, amplifying vasospasm; ET-1 in astrocytes stimulates the neurotrophic factors production [10]. It can be assumed that the EDN-1 gene AsnAsn genotype carriers, characterized by a high ET-1 level, are prone to more pronounced ADD manifestations associated with the systemic and local brain activity of ET-1.

Conclusions

1. Probability of the STEMI development with EDN-1 gene LysAsn + AsnAsn genotype in males is by 3.19 times higher than in women (χ^2 = 4.01, P = 0.043), with the presence of arterial hypertension – by 3.72 times higher (χ^2 = 4.31 , P = 0.038), with smoking - by 2.06 (χ^2 = 4.66, P = 0.031).

2. Carriers of the Asn allele compared to the EDN-1 gene LysLys genotype are more likely to have involvement of two or more coronary arteries

3. The presence of anxiety and depression is associated with the possibility of STEMI development in patients with the EDN-1 gene LysAsn + AsnAsn genotype.

References

1. Alieva AM, Chirkova NN, Pinchuk TV, Andreeva ON, Pivovarov VYu. Endoteliny i serdechno-sosudistaya patologiya. Rossiyskiy kardiologicheskiy zhurnal 2014; 11(115):83-87. [in Russian]

2. Kurnikova YeA, Kovalev YuR, Ryabkova TN, Glotov AS, Kachinskiy AP. Funktsionalnoye sostoyaniye endoteliya i strukturnyi polimorfizm DNK u zhenshchin s ishemicheskoy boleznyu serdtsa bez angiograficheskikh priznakov stenoza koronarnykh arteriy. Arterialnaya gipertenziya. 2010; 16(6): 577-581. [in Russian]

3. Oleshko TB, Harbuzova YuV, Ataman OV. Zvyazok Lys198Asn polimorfizmu hena endotelinu-1 z ishemichnym aterotrombotychnym insultom v osib iz normalnym ta pidvyshchenym arterialnym tyskom. Zhurnal klinichnykh ta eksperymentalnykh medychnykh doslidzhen. 2015; 3(4): 464-469. [in Ukrainian]

4. Omelyanenko MG, Shumakova VA, Sukhovey NA, Shchapova NN. Psikhoemotsionalnyie narusheniya i endotelialnaya disfunktsiya v razvitii serdechno-sosudistykh zabolevaniy, assotsiirovannykh s aterosklerozom. Sibirskiy meditsinskiy zhurnal. 2014; 29(3) 18-24. [in Russian]
5. Pogosova NV, Saner H, Pedersen SS, Cupples ME, Gee HMc, Hofer S, Doyle F, Schmid J, Kanel P, Von R. Psikhosotsialnyie aspekty v kardiologicheskoy reabilitatsii: ot teorii k praktike. Konsensusnyi dokument sektsii po kardiologicheskoy reabilitatsii Yevropeyskoy assotsiatsii po kardiovaskulyarnoy profilaktike i reabilitatsii Yevropeyskogo obshchestva kardiologov. Kardiologiya. 2016; 10: 96-108. [in Russian]
6. Shchapova NN, Omelyanenko MG, Shumakova VA, Tomilova IK. Psikhoemotsionalnyie faktory i endotelialnaya disfunktsiya kak prediktory otdalennykh sobytiy u patsiyentov s ishemicheskoy boleznyu serdtsa i arterialnoy gipertenziyey. Vestn. Ivanovskoy Meditsinskoy Akademii. 2012; 17(2): 25-29. [in Russian]
7. Teplyakov AT, Berezikova YeN, Shilov SN. Serdechnaya nedostatochnost. Kliniko-geneticheskiye aspekty ishemicheskogo remodelirovaniya i apoptoza miokarda v razvitii serdechnoy nedostatochnosti. Tomsk: STT, 2015. -400c. [in Russian]
8. Ahmed M, Rghigh A. Polymorphism in Endothelin-1 Gene: An Overview. Curr Clin Pharmacol. 2016; 11(3):191-210.
9. Davenport AP, Hyndman KA, Dhaun N, Southan C, Kohan DE, Pollock JS, Pollock DM, Webb DJ, Maguire JJ. Endothelin. Pharmacol Rev. 2016 Apr; 68(2):357-418.
10. Koyama Y. Endothelin systems in the brain: involvement in pathophysiological responses of damaged nerve tissues Biomol Concepts. 2013 Aug;4(4):335-47.
11. Palacin M, Rodriges-Pascual F, Reguero JR et al. Lack of association between endothelin-1 gene variants and myocardial infarction. Journal of Atherosclerosis and Thrombosis. 2009; 16(4):388-395.
12. Palahniuk HO, Pashkova II, Zhebel VM et al. Gene polymorphism of ET-1 and its plasma levels in men with uncomplicated essential hypertension and left ventricular hypertrophy. Biological markers and guided therapy. 2016; 3:45-46.
13. Popov AF, Schulz EG, Hinz J, Schmitto JD, Seipelt R, Koziolek MJ, Rosenberger A, Schoendube FA, Müller GA. Impact of endothelin-1 Lys198Asn polymorphism on coronary artery disease and endorgan damage in hypertensives. Coron Artery Dis. Nov. 2009; 19(7): 429-34.
14. Stepoe A., Kivimaki M. Stress and cardiovascular disease. Nat Rev.Cardiol. 2012; 9(6): 360-370.

Реферати

ФАКТОРИ РИЗИКУ ТА ПОЛІМОРФІЗМ ГЕНА ЕНДОТЕЛІНУ-1 (rs5370) У ХВОРИХ НА ІНФАРКТ МІОКАРДА З ЕЛЕВАЦІЄЮ СЕГМЕНТА ST

Петюніна О.В., Копиця М.П.

Метою роботи було вивчення асоціації поліморфізму Lys198Asn гена ендотеліну-1 (EDN-1) з клініко-анамнестичними показниками хворих на інфаркт міокарда з елевацією сегмента ST (ІМзEST). В дослідження включено 91 пацієнт з ІМзEST, 70 (77%) – чоловіки та 21 (13%) – жінки у середньому віці (60.3±9.4) років. Визначали традиційні фактори серцево-судинного ризику, рівень тривожно-депресивних розладів. Дослідження алельного поліморфізму Lys198Asn гена EDN-1 проводили методом полімеразної ланцюгової реакції з електрофоретичною схемою детекції результата. Вірогідність захворіти на ІМзESTу чоловіків з генотипом LysAsn+AsnAsn гена EDN-1 в 3.19 рази вище, ніж у жінок (χ^2=4.01, P=0.043), за наявності артеріальної гіпертензії - в 3.72 рази вище (χ^2=4.31, P=0.038), паління – в 2.06 (χ^2=4.66, P=0.031), що асоціюється з більш тяжким ураженням коронарних судин. Прояви тривоги та депресії у хворих на ІМзEST вище у пацієнтів з генотипом LysAsn+AsnAsn гена EDN-1. На підставі отриманих результатів автори роблять висновок про те, що поліморфний генотип LysAsn+AsnAsn гена EDN-1 асоціюється з більшою частотою зустрічаємості факторів серцево-судинного ризику у пацієнтів з ІМзEST.

Ключові слова: поліморфізм гена Lys198Asn, EDN-1, STEMI, серцево-судинні фактори ризику.

Стаття надійшла 14.08.18 р.

ФАКТОРЫ РИСКА И ПОЛИМОРФИЗМ ГЕНА ЭНДОТЕЛИНА-1 (rs5370) У БОЛЬНЫХ ИНФАРКТОМ МИОКАРДА С ЭЛЕВАЦИЕЙ СЕГМЕНТА ST

Петюнина О.В., Копица Н.П.

Целью работы являлось изучение ассоциации полиморфизма Lys198Asn гена эндотелина-1 (EDN-1) с клинико-анамнестическими показателями больных инфарктом миокарда с подъемом сегмента ST (ИМсПST). В исследование был включен 91 пациент с ИМсПST, 70 (77%) – мужчин и 21 (13%) - женщин, в среднем возрасте (60.3±9.4) лет. Определяли традиционные факторы сердечно-сосудистого риска, уровень тревожно-депрессивных расстройств. Исследование аллельного полиморфизма Lys198Asn гена EDN-1 проводили методом полимеразной цепной реакции с электрофорезной схемой определения результата. Вероятность заболеть ИМсПST у мужчин с генотипом LysAsn+AsnAsn гена EDN-1 в 3.19 раза выше, чем у женщин (χ^2=4.01, P=0.043), при наличии артериальной гипертензии - в 3.72 раза выше (χ^2 =4.31, P=0.038), курения – в 2.06 (χ^2=4.66, P=0.031), что ассоциируется с более тяжелым поражением коронарных сосудов. Проявления тревоги и депрессии у больных ИМсПST выше у пациентов с генотипом LysAsn+AsnAsn гена EDN-1. На основании полученых результатов авторы делают вывод о том, что полиморфный генотип LysAsn+AsnAsn гена EDN-1 ассоциируется с большей частотой встречаемости факторов сердечно-сосудистого риска у пациентов с ИМсПST.

Ключевые слова: полиморфизм гена Lys198Asn, EDN-1, STEMI, сердечнососудистые факторы риска.

Рецензент Скрипник І.М.