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**THE INFLUENCE OF TRIMETAZIDINE ON MARKERS OF
OXYDATIVE STRESS IN TREATMENT OF POSTINFARCTION
CARDIOSCLEROSIS**

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Introduction. It is known about many metabolic effects of trimetazidine but also there are antiradical properties. The influence of trimetazidine on oxidative stress in treatment of acute myocardial infarction (AMI) and in postinfarction period is not known exactly.

The aim of research is to establish the character of influence that trimetazidine has on markers of oxidative stress in treatment of patients with AMI and in the later 3 months after AMI.

Material and methods. 112 patients with acute Q-myocardial infarction were researched. The first group (54 patients) had trimetazidine MR (Preductal MR®) 35 mg twice daily from 5-7 days after AMI in addition to standard therapy. The second group includes 58 patients, who had only standard therapy. The intensiveness of free-radical oxidation in blood with method of biochemoluminescence with determination of I_{max} (prooxidative activity) and I_{fin} (condition of antioxidative reserve) were researched. Spectrophotometrical methods allow to determine the level of malondialdehyde (MDA) and activity of superoxide dismutase (SOD) in blood.

Results. The first group of patients had its medium values of I_{max} decreased (from 2128 to 1801 impulses per second (ips) (p<0.01)), I_{fin} increased (from 352 to 398 ips (p<0.01)), MDA decreased (from 6.57 to 4.12 μmol/l (p<0.001)), SOD decreased (from 36.29 to 24.14 mg/l (p<0.001)). The difference of medial indexes I_{max}, I_{fin}, MDA and SOD before and after therapy was 18.15%, 19.06%, 31.6%, 29.7% accordingly. The second group of patients had these indexes: I_{max} reduced (from 2079 to 1768 ips (p<0.01)), I_{fin} increased (from 348 to 366ips (p>0.05)), MDA decreased (from 5.82 to 4.56 μmol/l (p<0.001)) and SOD decreased (from 34.64 to 29.13 mg/l (p<0.01)), that appears to be 17.8%, 5.17%, 20.9%, 12.01% accordingly.

Conclusions. In conclusion, the adding of trimetazidine to standard therapeutic treatment of AMI from 5-7 days and continuation of the therapy during last 3 months had a decrease of oxidative stress markers and enzyme of the first line of antioxidative SOD protection, value of summar pro-oxidative activity (I_{max}) and increasing of general antioxidative activity (I_{fin}) had more effect, than treatment in the group without trimetazidine.

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**PPAR_γ, AT1R AND ACE GENE POLYMORPHISMS IN RELATION
TO HYPOTENSIVE THERAPY EFFECTIVENESS IN HYPERTENSIVE
PATIENTS WITH OBESITY AND/OR TYPE 2 DIABETES MELLITUS**

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Aim. To determine the response to treatment with telmisartan, ramipril and indapamide depending on the polymorphism of PPAR, AT1R and ACE genes in hypertensive patients with type II diabetes mellitus (DM II) and/or obesity.





Material. The study involved 158 patients (94 men and 52 women) with hypertension of I-II stage, 1-2 degree with DM II (n=105) and obesity (n=53).

Results. The best response to telmisartan after 6 weeks was observed in patients with ProPro/AA genotype: -21,1% decrease in SBP and -16,7% in DBP. Smaller efficacy was observed in ProPro/AC+CC group: -17,6% and -11,9% accordingly. The minimal response to therapy was shown by XAla/AC+CC carriers: -10,0% and 4,1%. Over the next 6 weeks 17 patients (mostly XAla/AC+CC carriers) additionally received hydrochlorothiazide. Speaking of ACE gene I/D polymorphism, ramipril showed the best efficacy in group of II genotype ($p < 0,01$): monotherapy allowed to achieve target blood pressure in 83,3% patients, the average dose of ramipril was $4,2 \pm 0,5$ mg daily. In DD genotype carriers, these figures were 57,2% and $4,6 \pm 0,4$ mg/day. Indapamide caused the best effect in D allele carriers: the target blood pressure on monotherapy was achieved in 90,4% cases on the average daily dose of $2,26 \pm 0,11$ mg, against 40,0% and 2,5 mg in II genotype group, respectively.

Conclusion. The best sensitivity to treatment with telmisartan was shown by ProPro homozygotes, the presence of Ala-allele and C-allele of AT1R gene was associated with decreased response. HAla /AC+CC seem to be the most unfavorable combination of genes in terms of telmisartan effectiveness in patients with hypertension and DM II. In hypertensive patients with obesity the best response to treatment with ramipril was observed in patients with II genotype of ACE gene, and in DD carriers with indapamide.

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THE CARBOHYDRATE METABOLISM IN HYPERTENSIVE PATIENTS DEPENDING ON LEPTIN LEVEL

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Aim. The aim of our study was investigate the parameters of carbohydrate metabolism in serum depend on leptin level in hypertensive patients.

Material and methods. 123 hypertensive patients were examined. The levels of leptin and insulin by ELISA were determined. The index of insulin resistance (HOMA index) was calculated by the formula. HOMA index > 2.77 considered to be insulin resistance.

Results. Patients were divided into three groups depend on fasting leptin blood level: 1st group (n=41) - the level of leptin was 2.24 - 7.18 ng/ml; 2nd group (n=41) - the level of leptin was 7.21 ó 12.50 ng/ml; 3rd (n=41) - the level of leptin was 12.50 ó 67.25 ng/ml. It was found, that the parameters of blood pressure (BP), body mass index, waist circumference increased parallel to the increasing of level of leptin in blood (< 0.05). The parameters of carbohydrate metabolism also increased: in 1st group the level of insulin and HOMA index was (10.52 ± 1.94 mkgU/ml and 2.31 ± 0.59), 2nd group - (12.51 ± 1.20 mkgU/ml and 2.64 ± 0.28), 3rd group - (24.68 ± 2.97 mkgU/ml and 5.51 ± 0.71 cu), < 0.05 .

