

RISK OF CORONARY ARTERY RESTENOSIS AFTER STENTING IN KAZAKH POPULATION

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Introduction: Coronary heart disease continuous to take the leading position in the world as the cause of death and early disablement of persons able to work, in spite of active introduction of modern methods of diagnostics and treatment. Stents introduction with drug covering allows to show the priority of endovascular surgery in the chose of the methods of the coronary artery passage restoration. In spite of the endovascular surgery progress high percents of complications stays after percutaneous coronary angioplasty. The most often restenose of coronary arteries is taking place, which according to the statistics is developed during the first 6 months after percutaneous coronary angioplasty in 20-40% of patients [1-3], and in complicated injuries of coronary arteries it reaches 60% [4].

The aim of the research: the estimation of clinico-biochemical markers on the risk elevation of restenosis in Kazakh population.

Materials and methods. 100 males of Kazakh nationality of Karaganda region who underwent the procedure of stenting of coronary arteries in connection with acute myocardial infarction were examined.

Questionnaire of the patients was made paying attention to finding of risk factors of coronary heart disease: arterial hypertension and hereditary factors of cardiovascular pathology. Biochemical findings of lipid specter, coagulogramm, C-reactive protein and changing of thrombocyte level were estimated.

All the patients were divided in two groups: 50 persons each. The 1st group consisted of the patients with restenosis of coronary arteries determined by coronarography during 1 year after stenting in connection with the repeated episode of acute coronary syndrome; the 2nd group consisted of the patients without the signs of restenosis. The mighty of association of analyzed signs were determined with the help of the quantity of Odds Ratio (OR).

Results and discussion. According to the questionnaire it was determined that hereditary factor to coronary heart disease was higher in the 1st group (62,22%) in comparison with the 2nd group (20,41%) (P-value - 0,00004; OR – 6,4).

Special attention was payed to the fact that the arterial hypertension was more often in the 1st group too (53,33%) in comparison with the 2nd group (18,37%) (P-value - 0,00003; OR – 5).

The signs of hypercoagulation were seen in 15% in the 1st group, but in the 2nd group there were only 11% of cases (p-value – 0,001). Moderate level of thrombocytosis was seen in each 2nd patient of the 1st group and in each 4th patient of the 2nd group.

The marked disturbances of lipid metabolism (hypercholesterolemia, hypertriglyceridemia, hyperlipoproteidemia) were determined in the 1st group in comparison with the 2nd group (P-value - 0,004).

It is necessary to mark that in the 1st group in 100% of patients the elevation of C-reactive protein was registered. At the same time in the 2nd group no one case with signs of inflammatory syndrome were marked by clinical and laboratory examinations.

According to the results of the research the clinico-biochemical prognostic factor of possible development of restenosis of coronary arteries may be the elevation of C-reactive protein, hypercholesterinemia, hypertriglyceridemia, hyperlipoproteidemia and inclination to hypercoagulation. The elevation of thrombocyte level may also be possible factor, as intervention of thrombocyte aggregation, including stenting zone. Determination of arterial hypertension signs in the patients after coronary stenting can be estimated as the risk factor of restenosis formation in the patients of Kazakh nationality.

Conclusion

1. Availability of coronary heart disease and hypertension in the first line of kinship relatives increases the risk of coronary artery restenosis after stenting to 6.4 and 5 times, respectively (P-value - 0,0003), (P-value - 0, 00004), which allows to be considered as risk factors for restenosis in the Kazakh population.
2. II and III degree of hypertension is prognostic unfavorable factor in the development of coronary artery restenosis after percutaneous coronary intervention (P-value - 0,0001).
3. Laboratory biochemical predictor of restenosis of coronary arteries is an increase in hypercholesterolemia (OR-1,5 p-0,0001), hypertriglyceridaemia (OR-8,8, p-0,004), hyperlipidemia (OR-4, 8, p-0, 0001) hyperfibrinogenemia and protrombin index.

Reference

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Abstract. The most often complication of coronary revascularization is restenose of coronary arteries. The estimation of clinico-biochemical markers on the risk elevation of restenosis is the

main aim of this investigation. 100 males of Kazakh nationality of Karaganda region who underwent the procedure of stenting of coronary arteries in connection with acute myocardial infarction were examined. It was proved that the elevation of risk of coronary restenosis connected with marked disturbances of lipid metabolism, thrombocytosis and hypercoagulation. Availability of coronary heart disease and hypertension in the first line of kinship relatives increases the risk of coronary artery restenosis after stenting to 6.4 and 5 times, respectively (P-value - 0,0003), (P-value - 0, 00004), which allows them to be considered as risk factors for restenosis in the Kazakh population. Marked clinical and laboratory damages are to be seen as indications for making of coronarography for the diagnosis of possible restenosing.

Keywords: coronary heart disease, revascularization, restenosis.