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GENERAL CARDIOVASCULAR RISK AND THE CLINICAL CONDITION OF PATIENTS WITH ATRIAL FIBRILLATION

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General cardiovascular risk (GCVR) in the clinical condition of patients with atrial fibrillation (AF) on 282 patients (165 men and 117 women) aged $64,6 \pm 9,7$ years was studied. In 137 patients was diagnosed permanent AF and in 145 - persistent with duration of the disease from 3 months to 25 years. Sex and age of the patients, form and duration of AF, functional class (FC) of IHD, presence of postinfarction cardiosclerosis, stage and severity of AH, stage and functional class (FC) of HF, class EHRA of AF was determined. GCVR was calculated in accordance with the scale SCORE. Patients were classified into groups of GCVR. Statistical evaluation was performed by parametric (estimation of mean (M) and standard deviation (sd)) and non-parametric (Student t-test and Mann-Whitney test) methods. Expediency of using GCVR in assessing severity of the health status of patients with AF was demonstrated. With the rise of GCVR class increases frequency and severity of arterial hypertension, IHD and HF. Patients with AF require for more attention with increasing of GCVR class.

KEY WORDS: general cardiovascular risk, atrial fibrillation, clinical condition

ЗАГАЛЬНИЙ КАРДІОВАСКУЛЯРНИЙ РИЗИК ТА КЛІНІЧНИЙ СТАН ПАЦІЄНТІВ З ФІБРИЛЯЦІЄЮ ПЕРЕДСЕРДЬ

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Вивчено загальний кардіоваскулярний ризик (ЗКВР) у клінічному стані пацієнтів з фібриляцією передсердь на 282 пацієнтах (165 чоловіків та 117 жінок) у віці $64,6 \pm 9,7$ років. У 137 діагностована постійна і у 145 персистуюча ФП давністю від 3 місяців до 25 років. Визначали стать і вік пацієнтів, форму та давність ФП, функціональний клас (ФК) ІХС, наявність післяінфарктного кардіосклерозу, стадію і ступінь тяжкості АГ, стадію і функціональний клас (ФК) СН. ЗКВР розраховували в відповідності до шкали SCORE. Пацієнтів класифікували на групи ЗКВР. Статистична обробка результатів проводилась параметричними з визначенням середнього значення (М) та стандартного відхилення (sd) і непараметричними t-критерієм Стьюдента та критерієм Манна-Уїтні методами. Показана доцільність використання ЗКВР у оцінці тяжкості стану здоров'я пацієнтів з ФП. Зі збільшенням класу ЗКВР збільшуються частота та підвищуються тяжкість АГ, ІХС та СН. Пацієнти з ФП потребують тим більше уваги, чим вищий клас ЗКВР.

КЛЮЧОВІ СЛОВА: загальний кардіоваскулярний ризик, фібриляція передсердь, клінічний стан

ОБЩИЙ КАРДИОВАСКУЛЯРНЫЙ РИСК И КЛИНИЧЕСКОЕ СОСТОЯНИЕ ПАЦИЕНТОВ С ФИБРИЛЛЯЦИЕЙ ПРЕДСЕРДИЙ

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Изучен общий кардиоваскулярный риск (ОКВР) в клиническом состоянии пациентов с фибрилляцией предсердий (ФП) на 282 пациентах (165 мужчин и 117 женщин) в возрасте $64,6 \pm 9,7$ лет. У 137 диагностирована постоянная и у 145 персистирующая ФП давностью от 3 месяцев до 25 лет. Определяли пол и возраст пациентов, форму и давность ФП, функциональный класс (ФК) ИБС, наличие постинфарктного кардиосклероза, стадию и степень тяжести АГ, стадию и функциональный класс (ФК) СН, класс EHRA ФП. ОКВР рассчитывали в соответствии со шкалой SCORE. Пациентов классифицировали на группы ОКВР. Статистическая оценка результатов проводилась параметрическими с оценкой среднего (М) и стандартного отклонения (sd) и непараметрическими t-критерием Стьюдента и критерием Манна-Уитни методами. Показана целесообразность

использования ОКВР в оценке тяжести состояния здоровья пациентов с ФП. С повышением класса ОКВР повышается частота и возрастает тяжесть артериальной гипертензии, ИБС и СН. Пациенты с ФП требуют тем большего внимания, чем больше класс ОКВР.

КЛЮЧЕВЫЕ СЛОВА: общий кардиоваскулярный риск, фибрилляция предсердий, клиническое состояние

INTRODUCTION

Atrial fibrillation (AF) is a serious medical and social problem as one of the leading causes of development and progression of heart failure (HF), thromboembolic complications, especially stroke, deterioration of life quality and expectancy in patients with significant increasing of treatment cost [1-5].

In assessing the state of patients' health and prediction of AF's outcome, evaluation of general cardiovascular risk (GCVR) on SCORE scale, proposed for estimation of risk of fatal cardiovascular diseases during 10 years, can be prospective. However, we have not found such research.

OBJECTIVE

The purpose of the study is to assess the value of general cardiovascular risk in the clinical condition of patients with atrial fibrillation.

MATERIALS AND METHODS

On the base of cardiology department of the central clinical hospital «Ukrzaliznytsia» and the city polyclinic №6 282 patients (165 men and 117 women) aged $64,6 \pm 9,7$ years were examined. In 137 patients was diagnosed permanent AF and in 145 - persistent with duration of the disease from 3 months to 25 years. Arterial hypertension (AH) was diagnosed in 235 patients, ischemic heart disease (IHD) - in 139 patients, postinfarction cardiosclerosis (PICS) - in 34 patients, heart failure (HF) - in 248 patients.

Exclusion criteria from the study were stable angina IV functional class (FC), acute coronary syndrome, heart failure IV FC and valvular heart disease.

Sex and age of the patients, form and duration of AF, functional class (FC) of IHD, presence of postinfarction cardiosclerosis, stage and severity of AH, stage and functional class (FC) of HF, class EHRA of AF was determined.

GCVR was calculated in accordance with the scale SCORE.

All patients were classified into 4 groups of GCVR: I - low (risk SCORE <1 %); II - moderate (risk SCORE $> 1\%$ and <5 %); III - high (risk SCORE > 5 % and <10 %) and IV - very high (SCORE > 10 %) risk.

The data were entered into the database Microsoft Excel 2010. Statistical evaluation was performed by parametric (estimation of mean (M) and standard deviation (sd)) and non-parametric (Student t-test and Mann-Whitney test) methods.

RESULTS AND DISCUSSION

In table presents our findings about changes of the frequency of main clinical symptoms' occurrence in patients with AF depending on severity of GCVR.

The age of patients naturally increases with increasing of GCVR that explains its place among the classifying factors of GCVR.

In groups of low and moderate GCVR numbers of men and women were almost equally. In groups of high and very high risk male patients were dominated: 2 times in group of high and 1.5 times - in very high risk.

Depending on duration of AF groups of GCVR did not differ.

AH was diagnosed in 60 % of patients with low, in 72 % - with moderate, in 77 % - with high and in 90 % - with very high GCVR. II stage of AH was prevalent in all groups of GCVR. Frequency of III stage of AH was increased with GCVR from 0 % in the group with a low to 6 %, 18 % and 29 % with moderate, high and very high risk.

IHD was absent in patients with low GCVR and observed in 4 %, 11 % and 78 %, respectively, with moderate, high and very high GCVR.

PICS was diagnosed in 44 % of patients with IHD in group of very high GCVR.

HF was diagnosed in 88% of patients. Majority was comprised by patients with II A stage in all groups from low to very high GCVR (respectively 57 %, 50 %, 43 % and 60 %). II FC of HF was also predominant in all groups and ranged from 43 % in patients with low to 59 % - with very high GCVR.

Table

Clinical characteristics of patients with AF in groups of GCVR (% , M ± sd)

Clinical characteristics		I – low (n – 10)	II – moderate (n – 67)	III –high (n – 35)	IV – very high (n – 170)
Age		48,1 ± 6,4	58,7 ± 6,8	66,3 ± 9,8	67,4 ± 8,8
sex	male	5	30	26	104
	female	5	37	9	66
AF	permanent	4	20	22	91
	persistent	6	47	13	79
Duration of AF, years		7,1 ± 7,4	5,3 ± 4,2	7,3 ± 5,9	6,7 ± 6,4
AH, stage	0	4	19	8	16
	I	1	1	2	4
	II	5	44	20	105
	III	0	3	5	45
AH, degree	1	1	8	3	20
	2	3	32	18	81
	3	2	8	6	53
IHD, FC	0	10	64	31	38
	I	0	0	1	32
	II	0	3	3	67
	III	0	0	0	33
PICS		0	0	0	34
HF, stage	0	3	13	7	11
	I	3	19	11	43
	II A	4	27	12	95
	II Б	-	8	5	21
HF, FC	I	2	16	5	18
	II	3	27	14	94
	III	2	11	9	47
AF, EHRA	I	6	32	7	17
	II	4	20	23	38
	III		15	15	115

Class I EHRA was diagnosed in 22 %, class II – 27 %, class III - in 51 % of patients. In low and moderate GCVR majority was comprised by patients with class I and II EHRA, in groups with high and very high GCVR risk class III EHRA was dominated.

Evaluation of GCVR with the procedure of its definition proposed by the European Society of Hypertension and the European Society of Cardiology in 2007 and refined in recommendations in 2013 [6]. Its use is recommended in patients with arterial hypertension, but common risk factors for the entire set of somatic heart diseases provide a basis of its application in patients with AF, the more that a significant part of them have the

comorbidity of arterial hypertension with AF [7-8].

This publication confirms this assumption. Moreover, taking into account the worsening of the clinical condition of patients with AF with increasing of GCVR, its definition should be the standard for patients' managing. Class of GCVR should be included in the diagnosis of AF and considered in treatment strategies, especially with regard to the so-called «therapy against the current» [9-10].

CONCLUSIONS

Fulfilled study shows the feasibility of using GCVR in assessing the severity of the health status of patients with AF.

The frequency and severity of arterial hypertension, IHD and HF increases with increasing of GCVR class.

Patients with AF require for more attention with increasing of GCVR class.

PROSPECTS FOR FUTURE STUDIES

It is interesting to evaluate functional indicators in patients with AF in different groups of GCVR and their dynamics during treatment.

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