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**Д.Ю. Николин, В.Г. Грачев, А.А. Липченко, Е.Г. Фокина М.В. Архипов
УЛЬТРАЗВУКОВЫЕ МАРКЕРЫ ПОВРЕЖДЕНИЯ ОРГАНОВ
МИШЕНИЙ И РИСК ИНСУЛЬТА У ПАЦИЕНТОВ С
ФИБРИЛЛЯЦИЕЙ ПРЕДСЕРДИЙ И 1 ДОПОЛНИТЕЛЬНЫМ
ФАКТОРОМ РИСКА ТРОМБОЭМБОЛИЧЕСКИХ ОСЛОЖНЕНИЙ В
СООТВЕТСТВИИ СО ШКАЛОЙ CHA2DS2-VASc, ОБУСЛОВЛЕННЫМ
АРТЕРИАЛЬНОЙ ГИПЕРТОНИЕЙ**

Кафедра терапии ФПК и ПП
Уральский государственный медицинский университет
Екатеринбург, Российская Федерация

**D.Y. Nikolin, V.G. Grachev, A.A. Lipchenko, E.G. Fokina, M.V. Arkhipov
ULTRASOUND SIGNS OF TARGET ORGAN DAMAGE AND STROKE
RISK IN PATIENTS WITH ATRIAL FIBRILLATION AND 1 ADDITIONAL
THROMBOEMBOLIC RISK FACTOR ACCORDING TO CHA2DS2-VASc
SCORE DUE TO HYPERTENSION**

Department of therapy
Ural state medical university
Yekaterinburg, Russian Federation

Контактный e-mail: dendoc-plus@yandex.ru

Аннотация. В статье рассмотрены вопросы назначения антикоагулянтной терапии пациентам с фибрилляцией предсердий с промежуточным риском тромбоэмболических осложнений. У таких пациентов необходимо выявление дополнительных клинико-функциональных параметров для более тщательной стратификации риска и определения показаний к назначению терапии оральными антикоагулянтами.

Annotation. The article deals with the indications for oral anticoagulants (OAC) in patients with ischemic stroke and atrial fibrillation. This is an attempt to identify additional clinical and functional characteristics of these patients for further ischemic stroke risk stratification and a decision on the OAC therapy application.

Ключевые слова: фибрилляция предсердий, инсульт, факторы риска тромбоэмболии, ультразвуковые параметры.

Keywords: atrial fibrillation, stroke, thromboembolic risk factor, ultrasound signs.

CHA2DS2VASc score is recommended to assess the indications for using oral anticoagulants with the purpose of stroke prevention during atrial fibrillation (AF) with clear recommendations to OAC in patients having ≥ 2 points and against OAC in patients having 0 points. In patients with one additional sex-related risk factor (ARF), the guidelines allow to use or not to use OAC. Hypertension is one of the most common risk factors for stroke in AF. Its prognostic value may be different depending on the target organ damage [1].

Purpose. To assess the importance of ultrasound (US) signs of target organ damage for stroke risk in patients with AF and 1 ARF according to CHA2DS2VASc score due to hypertension.

Materials and methods. In retrospective case-control study, we analyzed data from medical records of 53 ischemic stroke patients with AF, having 1 ARF according to CHA2DS2VASc score due to hypertension before stroke (60.5 ± 5.9 years, 19 females, 37 with echocardiography [echo] data, group 1) and 48 age- and sex-matched patients with AF and 1 ARF due to hypertension without stroke (60.1 ± 4.8 years, 19 females, 48 with echo data, group 2) [2]. Carotid ultrasonography was provided for all patients in both groups. Increased left ventricular mass index (LVMI), carotid intima-media thickness (IMT) and presence of carotid plaques were considered as signs of target organ damage.

The patient's selection criteria.

Inclusion criteria:

1. The presence of non-valvular atrial fibrillation history, regardless of its form, or atrial fibrillation, registered for the first time at the time of hospitalization.
2. The presence of one point in the thromboembolic complications risk calculation according to the scheme CHA2DS2-VASc in men and one additional calculation point in women.

Exclusion criteria:

1. The presence of rheumatic heart disease;
2. Prosthetic heart valves;
3. Infective endocarditis;
4. Hyperthyroidism, now or in history.

Results. The results of our research are presented in table.

Table 1.

The results of ultrasound checking

Index	Group 1	Group 2	p
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LVH, echocardiography results, n (%)	35 (67,31)	33 (46,48)	0,019
Valve pathology, echocardiography results, n (%)	0	1 (1,41)	0,32
Intraventricular septum thickness, mm (SD)	1,20 (0,13)	1,11 (0,20)	0,0030
Thickness of the bottom wall of the left ventricle, mm (SD)	1,14 (0,25)	1,09 (0,21)	0,32
LVMI, (SD)	124,90 (23,78)	105,96 (29,62)	0,0002
EFLV, Simpson, % (SD)	54,38 (7,39)	55,62 (7,23)	0,36
EFLV, Teycholts, % (SD)	63,70 (7,91)	62,96 (7,40)	0,66
LA width, mm (SD)	4,27 (0,60)	4,20 (0,53)	0,48
LA length, ml (SD)	6,07 (1,02)	5,79 (0,79)	0,10
LA volume, ml (SD)	73,86 (27,25)	69,06 (23,23)	0,31
The thickness of the intima-media complex, echocardiography results (SD)	1,0 (0,15)	0,87 (0,13)	< 0,0001
Max. percent of brachiocephalic artery stenosis, echocardiography results, (SD)	16,63 (22,04)	10,33 (11,27)	0,0335

Mean values of LVMI (125.7 ± 23.5 versus 103.1 ± 27.5 g/m², $p = 0.0001$) and IMT (1.02 ± 0.14 versus 0.87 ± 0.13 mm, $p < 0.0001$) were significantly greater in group 1 than in group 2. The prevalence of LV hypertrophy was 67.6% in group 1 and 41.7% in group 2, $p = 0.028$, the prevalence of IMT > 0.9 mm was 64.2% versus 25% respectively, $p < 0.0001$. Statistically significant differences between the groups are shown in figure 1.

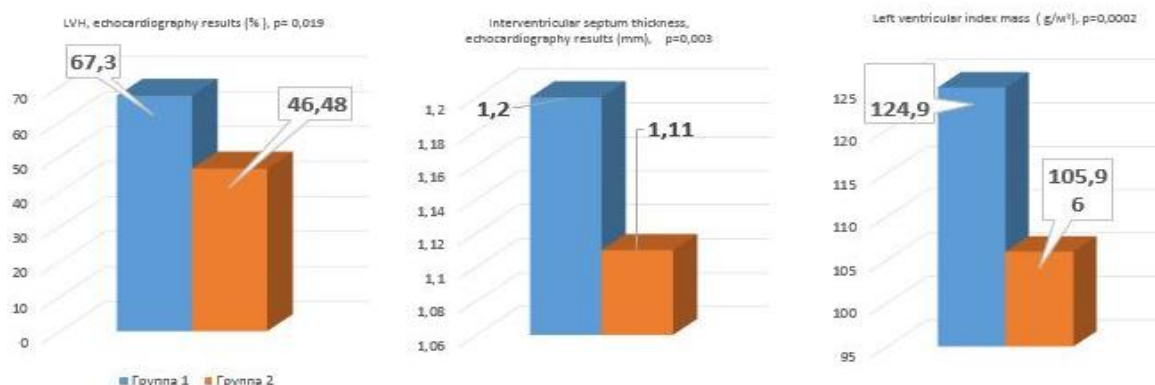


Fig.1. The Results of echocardiography

The difference in the prevalence of carotid plaques between groups was not significant. Increased LVMI (OR 2.92; 95% CI 1.19-7.15) and increased IMT (OR 5.37; 95% CI 2.67-12.70) were associated with increased stroke risk.

Discussion. Currently, the possibility of different individual factors' contributions included in CHA2DS2-VASc in stroke risk assessment in patients with AF and the search for additional features that could enhance the sensitivity of CHA2DS2-VASc in identifying patients at increased risk of thromboembolic complications are widely discussed in the medical literature. The cohort studies of Loire Valley Atrial Fibrillation Project and the Danish national register of patients with AF show the greatest specific importance of the age range of 65-74 years in comparison with the other components according to CHA2DS2-VASc with 1 additional risk factor for patients. When comparing the patients matched by age and gender with atrial fibrillation with one additional point on CHA2DS2-VASc, with and without stroke, our study did not reveal significant differences in the prevalence of certain risk factors included in this scale, which makes it impossible to single out one CHA2DS2-VASc component, in addition to age, as the most significant one for the stroke risk formation, and to determine the indications for antithrombotic therapy in this group of patients.

The differences between the groups of patients with AF with and without stroke in our study were noted while comparing the readings of echocardiogram characterizing the presence and severity of LVH. LVH, on the one hand, reflects the severity of hypertension and frequency factors contributing to the thromboembolic complications risk in patients with 1 additional point on CHA2DS2-VASc; on the other hand, it is accompanied by impaired left ventricular function, especially diastolic one, it contributes to the thrombus formation in the left atrium. The increased risk of stroke in patients with AF in the presence of LVH is confirmed by the results of the retrospective AFFIRM study analysis. According to A.C.Boyd et al., LVMI increase is associated with an increase in the detection rate of a blood clot in the sinus of the LA with TE-echocardiogram. Thus, our results and the findings of the other authors above may indicate the appropriateness of considering the echocardiogram indicators characterizing LVH, when assessing the risk of stroke and determining the indications for anticoagulation in patients with atrial fibrillation and one additional risk factor for thromboembolic complications on CHA2DS2-VASc scale. Significant differences between groups were also noticed in the analysis of parameters. Brachycephalic artery ultrasound characterizes the severity of atherosclerosis in the carotid arteries. These indicators can also serve as a reflection of the hypertension severity, and also as a risk factor for stroke in AF. At the same time, these are well known changes in the carotid artery intima-media complex thickness and the degree of carotid artery stenosis as risk factors for cardiovascular complications in general. In this connection, it is difficult to separate the assessment of carotid artery walls change as a risk factor and noncardioembolic or cardioembolic stroke. Nevertheless, the presence of changes in the carotid arteries with brachycephalic artery ultrasound can serve as an additional criterion for deciding

upon the appointment of anticoagulation in patients with AF with 1 additional risk factor for thromboembolic complications.

Conclusion:

1. Target organ damage may be associated with further increase of the stroke risk in AF patients with 1 ARF due to hypertension.

2. Increased LVMI and carotid IMT should be considered while making decision about the OAC use in such patients.

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М.В. Новоселова, Г.М. Барташевич
КЛИНИЧЕСКИЙ СЛУЧАЙ ДЕБЮТА РЕВМАТОИДНОГО АРТРИТА НА
ФОНЕ ОСТЕОАРТРОЗА

Кафедра факультетской терапии и эндокринологии
Уральский государственный медицинский университет
Екатеринбург, Российская Федерация

M.V. Novoselova, G.M. Bartashevich
CLINICAL CASE OF THE DEBUT OF RHEUMATOID ARTHRITIS
AGAINST OSTEOARTROSIS

Department of faculty therapy and endocrinology
Ural state medical university
Yekaterinburg, Russian Federation

Контактный e-mail: novoselvik@mail.ru

Аннотация. В статье рассмотрен пример клинического случая дебюта ревматоидного артрита на фоне остеоартроза.

Annotation. There is an example of the clinical case of rheumatoid arthritis's debut on the picture of osteoarthrosis considered in the article.

Ключевые слова: ревматоидный артрит, АЦЦП, ревматоидный фактор

Keywords: rheumatoid arthritis, ACCP, rheumatoid factor.

Ревматоидный артрит (РА) – это аутоиммунное заболевание, неизвестной этиологии, характеризующееся хроническим эрозивным артритом (синовитом) и системным поражением внутренних органов[6]. По данным ВОЗ