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Does the CHA_2DS_2-VASc score determine anticoagulant treatment in atrial fibrillation patients? Data from the POLish Atrial Fibrillation (POL-AF) Registry

Czy wynik CHA_2DS_2-VASc determinuje leczenie przeciwzakrzepowe u pacjentów z migotaniem przedsionków? Dane z POLish Atrial Fibrillation (POL-AF) Registry?

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Abstract

Introduction. Oral anticoagulants (OAC) should be used in patients with atrial fibrillation (AF) depending on the thromboembolic risk assessed using the CHA_2DS_2-VASc score. The aim of the study is to verification if the CHA_2DS_2-VASc score influences using OACs in patients with AF and also to analyse predictors of OAC use in AF patients at non-high (intermediate and low) thromboembolic risk.

Material and methods. The presented study has been based on the data from the POL-AF Registry which is a prospective, multicentre study including patients with diagnosed AF consecutively hospitalized in 10 cardiology centres from January to December 2019.

Results. The study comprised 3,956 patients. A high risk of thromboembolic complications was observed in 91.4%, intermediate in 6.3% and low in 2.3% of them. OACs were administered to 81.1% of patients, including 91.5% at high, 90.3% at intermediate and 86.2% at low thromboembolic risk. CHA_2DS_2-VASc score was not a predictor of using OACs in all patients with AF [odds ratio (OR) 1.02, confidence interval (CI): 0.96–1.08, p = 0.747]. In the group of patients with non-high thromboembolic risk, the factor predisposing to OAC prescription was hospitalization due to electrical cardioversion [OR 6.55, CI: 1.52–28.21, p = 0,012], contrary to anaemia (OR 0.27, CI: 0.12–0.64, p = 0,003) and cancer (OR 0.14, CI: 0.03–0.57, p = 0.006), which decreased the chance of using OACs in this group.

Conclusions. The CHA_2DS_2-VASc score was not a predictor of OAC use in the whole study cohort. In the significant proportion of non-high thromboembolic risk patients with AF, OACs were administered, mainly because of temporary indications.

Key words: oral anticoagulant; atrial fibrillation, thromboembolic risk

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Introduction

Thromboembolic events are among the major complications of atrial fibrillation (AF) [1, 2]. In patients with AF, thromboembolic risk depends on sex, age and co-morbidities. To assess it, it is recommended to use the CHA_2DS_2-VASc score. In all the European guidelines, oral anticoagulants (OACs) are recommended for patients at high thromboembolic risk. On the contrary, guidelines recommend against OAC use in patients at low thromboembolic risk, as the bleeding risk is considered to outweigh potential benefits of thromboembolic risk reduction [3–5]. Patients with low thromboembolic risk should not receive antithrombotic treatment except for periablation and pericardioversion period in patients with AF lasting longer than 48 hours [5]. OACs should be considered in patients at intermediate thromboembolic risk. Despite these clearly defined stroke prevention rules, it is possible to observe a large proportion of low thromboembolic risk patients prescribed OACs [6–8].

The study aimed to check if CHA_2DS_2-VASc score was a predictor of OAC use in patients with AF and also to assess predictors of OAC prescription in non-high thromboembolic risk patients with AF.

Material and methods

Study population

The POL-AF Registry (NCT04419012) was a prospective, observational study enrolling AF patients hospitalized in 10 cardiology departments in Poland (eight of them were academic and two regional). Details on the study design have been reported elsewhere [9–11]. In brief, consecutive hospitalized patients were included in the study on the condition that they were at least 18 years of age and had AF history reported by electrocardiography or in their case record. Diagnosis of AF was made by attending physicians by the European Society of Cardiology (ESC) guidelines [5]. Patients who died during hospitalization and those with valvular AF (valve prosthesis, mitral stenosis — at least moderate) were excluded from the study. Also, patients hospitalized to have AF substrate ablation were not included because not all the centres perform catheter ablation. Moreover, patients undergoing ablation due to AF have a clinical profile different from most patients with AF (they are younger and do not have concomitant diseases).

Patients were recruited to the study between January and December 2019. Those hospitalized a few times

during the study period obtained the same number in the database.

In the presented study, based on the results of the POL-AF Registry, all patients with AF included in this registry were evaluated.

Covariates

Investigators collected data regarding demographics, medical history, type of AF, laboratory test results and anticoagulant pharmacotherapy. Bleeding risk was assessed according to HAS-BLED [hypertension, abnormal renal/liver function, stroke, bleeding, labile international normalized ratio (INR), elderly (> 65 years), drug/alcohol consumption] score [12].

The assessment of patients' kidney function was done with the use of the estimated glomerular filtration rate (eGFR) calculated with the Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) equation.

Anaemia was defined as haemoglobin concentration < 12 g/dL.

The study obtained the approval of the Ethics Committee of the Świętokrzyska Medical Chamber in Kielce (104/2018) which also waived the obligation of acquiring informed consent from the patients.

Stroke risk assessment

The thromboembolic risk was defined according to the CHA_2DS_2-VASc score. The CHA_2DS_2-VASc score was calculated by giving 1 point each for congestive heart failure or left ventricular systolic dysfunction, hypertension, diabetes mellitus, vascular disease (prior myocardial infarction, vascular revascularization or aortic plaque), age 65–74 years, and female gender, and 2 points for previous thromboembolic events and age ≥ 75 years [13].

Patients with CHA_2DS_2-VASc score 0 for males and 1 for females were categorized as low, with CHA_2DS_2-VASc score 1 for males and 2 for females as an intermediate and with CHA_2DS_2-VASc score ≥ 2 for males and ≥ 3 for females as high stroke risk.

Stroke prevention in the study group

The study provides an evaluation of antithrombotic therapy suggested during the patients' discharge from the hospital. The following groups of patients according to stroke prevention were defined: OAC group and no-OAC group. OAC group included patients treated with vitamin K antagonist (VKA) and non-vitamin K oral anticoagulants (NOACs) alone or with antiplatelet drug/drugs. In Poland apixaban, dabigatran and rivaroxaban are available for stroke prevention in patients with AF. Edoxaban has been registered in Europe, however, it is not available in Poland. No-OAC group included patients treated with antiplatelet drugs (acetylsalicylic acid, clopidogrel, prasugrel, ticagrelor), heparin and patients without any stroke prevention.

Statistical analyses

Statistical analysis was conducted with the use of STATISTICA 13.3 statistical package. Descriptive statistics were presented as numbers with percentages or mean values with standard deviation. Univariate logistic regression and multivariate logistic regression were conducted to assess the odds ratio along with a 95% confidence interval. The value which was considered to be statistically significant was $p < 0,05$.

Results

Characteristic of the study group

The study cohort contained a total of 3,956 patients (42.6% female, mean age 72.1 years) with AF. The most common co-morbidity was hypertension, which occurred in 83.7% of patients. Heart failure appeared as a concomitant diagnosis in 65.3% of patients. Most common among non-cardiac diseases was impaired renal function — 45.4%. Paroxysmal AF was observed in 48.3% of patients whereas 28.3% suffered from permanent AF.

In the study group, 2.3% of patients were at low risk of stroke, 6.3% of patients were at intermediate risk of stroke, and most patients (91.4%) were at high risk of stroke. The high bleeding risk score was noted in 30.6 % of patients. Baseline characteristics of patients according to stroke risk were presented in Table 1.

Stroke prevention according to stroke risk

Among the total study population in most of the patients (91.3%), OAC therapy was used. Also, antiplatelet therapy was prescribed for 3.6% of patients, heparin for 2.6% of patients and 2.6% of patients who did not receive any stroke prevention.

Of those on OACs, most of the patients (82.3%) were treated with NOACs. In the group treated with NOACs, 32.1% of patients received apixaban, 27.5% dabigatran and 40.4% rivaroxaban. In the study group, 36% of patients were treated with a reduced NOAC dose.

Table 2 showed stroke prevention strategy according to the stroke risk. OACs were prescribed for 91.5% of patients with high, 90.3% of patients with intermediate and 86.2% of patients with low risk of stroke ($p = 0.170$). The proportion of patients not receiving anticoagulant or antiplatelet therapies was higher in patients at low (9.6%) and intermediate (6%) thromboembolic risk than in patients at high (2.1%) thromboembolic risk ($p < 0.001$).

Assessment of predictors of oral anticoagulant use in all patients

Among the total study group, factors predisposing to OAC prescription were assessed. Table 3. showed the results of univariate logistic regression analysis. The factor associated with OAC prescription was hospitalization due to

Table 1. Baseline characteristics of the study group

Clinical characteristic	All n = 3956	High stroke risk group n = 3614	Intermediate stroke risk group n = 248	Low stroke risk group n = 94
Age	72.1 (11.4)	73.6 (10.3)	58.2 (9.3)	50.5 (10.5)
Mean (SD), years				
< 65	895 (22.6)	598 (16.5)	203 (81.9)	94 (100)
65–74	1330 (33.6)	1285 (35.6)	45 (18.1)	0 (0.0)
≥ 75	1731 (43.8)	1731 (47.9)	0 (0.0)	0 (0.0)
Female	1686 (42.6)	1572 (43.5)	89 (35.9)	25 (26.6)
Type of atrial fibrillation				
Paroxysmal	1909 (48.3)	1723 (47.7)	129 (52.0)	57 (60.6)
Persistent	928 (23.5)	803 (22.2)	90 (36.3)	35 (37.2)
Permanent	1119 (28.3)	1088 (30.1)	29 (11.7)	2 (2.2)
Medical history				
Hypertension	3312 (83.7)	3174 (87.4)	138 (55.6)	0 (0.0)
Heart failure	2584 (65.3)	2529 (70.0)	55 (22.2)	0 (0.0)
Vascular disease	2214 (56.0)	2207 (61.1)	7 (2.8)	0 (0.0)
Coronary artery disease	1984 (50.2)	1979 (54.8)	5 (2.0)	0 (0.0)
Previous myocardial infraction	882 (22.3)	881 (24.4)	1 (0.4)	0 (0.0)
Peripheral artery disease	566 (14.3)	564 (15.6)	2 (0.8)	0 (0.0)
Previous stroke/TIA/peripheral embolism	648 (16.4)	648 (17.9)	0 (0.0)	0 (0.0)
Diabetes mellitus	1344 (34.0)	1341 (37.1)	3 (1.2)	0 (0.0)
Any previous bleeding	124 (3.1)	118 (3.3)	5 (2.0)	1 (1.1)
Intracranial bleeding	29 (0.7)	29 (0.8)	0 (0.0)	0 (0.0)
Gastrointestinal bleeding	151 (3.8)	149 (4.1)	2 (0.8)	0 (0.0)
Malignancy	195 (4.9)	186 (5.1)	5 (2.0)	4 (4.3)
Anaemia	911 (23.0)	872 (24.1)	29 (11.7)	10 (10.6)
eGFR < 60 mL/min/1.73 m^2	1798 (45.4)	1731 (47.9)	53 (21.4)	14 (14.9)
Bleeding risk				
HAS-BLED score	2.1 (0.9)	2.2 (0.8)	0.9 (0.5)	0.1 (0.4)
Mean (SD)				
≥ 3	1210 (30.6)	1208 (33.4)	2 (0.8)	0 (0.0)
Reason for hospitalization				
Electrical cardioversion	893 (22.6)	796 (22.0)	67 (27.0)	30 (31.9)
Planned coronarography/PCI	382 (9.7)	372 (10.3)	8 (3.2)	2 (2.1)
CIED implantation/reimplantation	360 (9.1)	346 (9.6)	13 (5.2)	1 (1.1)
Acute coronary syndrome	242 (6.1)	240 (6.6)	2 (0.8)	0 (0.0)
Heart failure	811 (20.5)	788 (21.8)	22 (8.9)	1 (1.1)
Ablation other than AF	210 (5.3)	189 (5.2)	13 (5.2)	8 (8.5)
AF without any procedures	251 (6.3)	191 (5.3)	42 (16.9)	18 (19.1)

SD — standard deviation; TIA — transient ischemic attack; eGFR — estimated glomerular filtration rate; PCI — percutaneous coronary intervention; CIED — cardiac implantable electronic device; AF — atrial fibrillation

Table 2. Stroke prevention according to stroke risk

Stroke prevention	All n = 3,956	High stroke risk n = 3,614	Intermediate stroke risk n = 248	Low stroke risk n = 94	p
OAC	3611 (91.3)	3306 (91.5)	224 (90.3)	81 (86.2)	0.170
APT	142 (3.6)	135 (3.7)	5 (2.0)	2 (2.1)	0.276
Heparin	103 (2.6)	96 (2.7)	5 (2.0)	2 (2.1)	0.794
No	101 (2.6)	77 (2.1)	15 (6.0)	9 (9.6)	< 0.001

APT — antiplatelet drugs; OAC — oral anticoagulant

Table 3. Factors increasing the chances of using oral anticoagulants (OACs) in all patients — univariate logistic regression analysis

Clinical characteristic	OAC group n = 3611	No-OAC group n = 345	OR	95% CI	p
Age	72.0 (11.2)	73.1 (12.95)	1.00	0.99–1.01	0.084
Mean (SD), years					
Female	1548 (42.9)	138 (40.0)	1.13	0.90–1.41	0.304
Type of atrial fibrillation					
Permanent	1005 (27.8)	114 (33.0)	0.78	0.62–0.99	0.040
Medical history					
Hypertension	3045 (84.3)	267 (77.4)	1.58	1.21–2.06	< 0.001
Heart failure	2361 (65.4)	223 (64.6)	1.04	0.83–1.31	0.781
Vascular disease	2010 (55.7)	204 (59.1)	0.87	0.70–1.09	0.216
Coronary artery disease	1799 (49.8)	185 (53.6)	0.86	0.69–1.08	0.178
Previous myocardial infraction	783 (21.7)	99 (28.7)	0.69	0.54–0.89	0.003
Peripheral artery disease	502 (13.9)	64 (18.6)	0.71	0.54–0.95	0.019
Previous stroke/TIA/peripheral embolism	599 (16.6)	49 (14.2)	1.21	0.88–1.65	0.254
Diabetes mellitus	1220 (33.8)	124 (35.9)	0.91	0.73–1.15	0.420
Any previous bleeding	98 (2.7)	26 (7.5)	0.35	0.22–0.54	<0.001
Previous intracranial bleeding	18 (0.5)	11 (3.2)	0.16	0.08–0.33	<0.001
Gastrointestinal Bleeding	109 (3.0)	42 (12.2)	0.23	0.16–0.33	<0.001
Malignancy	153 (4.2)	42 (12.2)	0.32	0.23–0.46	<0.001
Anaemia	779 (21.6)	132 (38.3)	0.45	0.36–0.57	<0.001
eGFR < 60 ml/min/1.73 m^2	1617 (44.8)	181 (52.5)	0.75	0.6–0.93	0.010
CHA_2DS_2-VASc score	4.4 (1.8)	4.3 (1.9)	1.02	0.96–1.08	0.747
Mean (SD)					
HAS-BLED score	2.1 (0.9)	2.2 (1.0)	0.93	0.82–1.04	0.175
Mean (SD)					
Reason for hospitalization					
Electrical cardioversion	879 (24.3)	14 (4.1)	7.61	4.44–13.06	<0.001
Planned coronarography/PCI	348 (9.6)	34 (9.9)	0.98	0.68–1.42	0.896
CIED implantation/reimplantation	342 (9.5)	18 (5.2)	1.91	1.17–3.10	0.010
Acute coronary syndrome	197 (5.5)	45 (13.0)	0.39	0.28–0.55	<0.001
Heart failure	736 (20.4)	75 (217)	0.93	0.71–1.21	0.551
Ablation other than AF	191 (5.3)	19 (5.5)	0.96	0.59–1.56	0.864
AF without any procedures	234 (6.5)	17 (4.9)	0.75	0.46–1.24	0.260

OR — odds ratio; CI — confidence interval; SD — standard deviation; TIA — transient ischemic attack; eGFR — estimated glomerular filtration rate; PCI — percutaneous coronary intervention; CIED — cardiac implantable electronic device; AF — atrial fibrillation

electrical cardioversion [odds ratio (OR) 7.61, confidence interval (CI) 4.44–13.06, p < 0.001]. On contrary, the CHA_2DS_2-VASc score was not a predictor of OAC use in all patients.

Assessment of predictors of oral anticoagulant use in non-high (intermediate and low) stroke risk patients

The supplementary table at the end of the article (Table S1) shows a comparison of OAC treated and no-OAC treated patients in the group of non-high (low and intermediate) thromboembolic risk. In the group of non-high thromboembolic risk, in univariate logistic regression analysis, it was indicated that hospitalization due to electrical cardioversion was a predictor of OAC prescription whereas anaemia and cancer significantly decreased chances to use OACs (Table 4). The above factors were included in multivariate logistic regression analysis. It was observed that hospitalization to have electrical cardioversion was a predictor of OAC use (OR 6.55, CI 1.52–28.21, p = 0.012). Anaemia (OR 0.27, CI

Table 4. Factors increasing the chances of using oral anticoagulants (OACs) in the group of patients with non-high (low and intermediate) stroke risk — univariate logistic regression analysis

Clinical characteristic	OAC group n = 305	No-OAC group n = 37	OR	95% CI	p
Age	56.3 (9.7)	53.9 (13.5)	1.03	1.00–1.06	0.173
Mean (SD), years					
Female	103 (33.8)	11 (29.7)	1.21	0.58–2.54	0.623
Permanent AF vs. other	3 (8.1)	28 (9.2)	1.15	0.33–3.97	0.830
Medical history					
Hypertension	127 (41.6)	11 (29.7)	1.69	0.81–3.54	0.167
Heart failure	50 (16.4)	5 (13.5)	1.26	0.47–3.38	0.654
Vascular disease	5 (1.6)	2 (5.4)	0.30	0.06–1.56	0.150
Coronary artery disease	3 (1.0)	2 (5.4)	0.18	0.03–1.08	0.060
Previous myocardial infarction	1 (0.3)	0 (0)	–	–	–
Peripheral artery disease	2 (0.7)	0 (0)	–	–	–
Diabetes mellitus	2 (0.7)	1 (2.7)	0.24	0.03–2.69	0.246
Any previous bleeding	5 (1.6)	1 (2.7)	0.61	0.07–5.28	0.646
Previous intracranial bleeding	0 (0)	0 (0)	–	–	–
Gastrointestinal Bleeding	2 (0.7)	0 (0)	–	–	–
Malignancy	4 (1.3)	5 (13.5)	0.09	0.03–0.34	< 0.001
Anaemia	28 (9.2)	11 (29.7)	0.24	0.11–0.53	< 0.001
eGFR < 60 mL/min/1.73 m^2	62 (20.3)	5 (13.5)	1.68	0.63–4.5	0.303
CHA_2DS_2VASc-score	1.1 (0.7)	1.0 (0.7)	1.32	0.80–2.19	0.286
Mean (SD)					
HAS-BLED score	0.7 (0.60)	0.6 (0.60)	1.31	0.73–2.35	0.382
Mean (SD)					
Reason for hospitalization					
Electrical cardioversion	95 (31.1)	2 (5.4)	7.92	1.87–33.6	0.006
Planned coronarography/PCI	10 (3.3)	0 (0)	–	–	–
CIED implantation/reimplantation	13 (4.3)	1 (2.7)	1.61	0.21–12.62	0.655
Acute coronary syndrome	2 (5.4)	0 (0)	–	–	–
Heart failure	22 (7.2)	1 (2.7)	2.80	0.37–21.4	0.322
Ablation other than AF	19 (6.2)	2 (5.4)	0.87	0.20–3.86	0.844
AF without any procedures	54 (17.7)	6 (16.2)	1.12	0.45–2.8	0.823

OR — odds ratio; CI — confidence interval; SD — standard deviation; AF — atrial fibrillation; eGFR — estimated glomerular filtration rate; PCI — percutaneous coronary intervention; CIED — cardiac implantable electronic device

Table 5. Factors increasing the chances of using oral anticoagulants in the group of patients with non-high (low and intermediate) stroke risk — multivariate logistic regression analysis

Clinical characteristic	OR	95% CI	p
Electrical cardioversion as a reason for hospitalization	6.55	1.52–28.21	0.012
Malignancy	0.14	0.03–0.57	0.006
Anaemia	0.27	0.12–0.64	0.003

OR — odds ratio; CI — confidence interval

0.12–0.64, p = 0.003) and cancer (OR 0.14, CI 0.03–0.57, p = 0.006) were factors predisposing to no-OAC use in the group of non-high thromboembolic risk patients (Table 5).

Discussion

The present study provides an important view of actual antithrombotic therapy in patients with AF based on the multicentre, national registry. The main results of this study are presented in this paper. Firstly, the CHA_2DS_2-VASC score was not a predictor of OAC use in the AF population and in patients with intermediate and low risk of stroke the percentage of OAC treated patients was high. Secondly, factors predisposing to OAC prescription in non-high stroke risk patients were identified.

In the presented study OACs were used respectively in 91.5%, 90.3%, 86.2% of patients at high, intermediate and low risk of thromboembolic complications. A large proportion of non-high thromboembolic risk patients who received OACs is very surprising. According to the current guidelines of ESC, anticoagulant prophylaxis should be used in patients at high thromboembolic risk, considered in patients at intermediate risk of thromboembolic complications and should not be used persistently in low thromboembolic risk patients [5].

In the analysis of GARFIELD-AF, it was found that almost half of the patients with the CHA_2DS_2-VASc score equal to 0 (men) or 1 (women) received OACs [14]. In the Balkan Registry, in the group of 2,712 patients included between 2014 and 2015, 56.5%, truly low-risk patients were recommended OACs [8]. In the PINNACLE Registry, 31.3% of patients without risk factors in CHA_2DS_2-VASc score received OACs [15]. The GRASP-AF Registry showed that from 2009 to 2018, the percentage of patients with low thromboembolic risk receiving OACs was 36.2–46.4% [16]. In PREFER in AF, more than half of AF patients at low and intermediate thromboembolic risk received OACs: 70.1% of the patients with CHA_2DS_2-VASc score 1 and 62.5% of patients without any CHA_2DS_2-VASc stroke risk factor [17].

To explain a similar proportion of OAC treated patients with AF and low, intermediate and high risk of stroke, some limitations of CHA_2DS_2-VASc score in thromboembolic risk assessment should be considered. Despite being specifically constructed and validated for this purpose, the CHA_2DS_2-VASc score allows to notice only a part of this risk. Therefore, the study cohort with a low risk of stroke was potentially enriched with emerging risk factors increasing the stroke risk but not included in CHA_2DS_2-VASc score, e.g., AF type, cancer, chronic kidney disease. This can be the explanation why so many patients with low thromboembolic risk according to their CHA_2DS_2-VASc score did receive OACs. It seems to be the main reason for such a state of things, insufficient adherence to the guidelines should not lie at the bottom of OAC application in this group of patients.

In some of the patients with AF and low/intermediate stroke risk, there are temporary indications to apply such OACs as electrical cardioversion or ablation. In the present study, app. half of the patients with low risk of stroke had a temporary indication, such as hospitalization due to electrical cardioversion, hospitalization due to AF without any procedures (but probably with the planned cardioversion or ablation) to OAC prescription. Hospitalization due to electrical cardioversion was the strongest factor predisposing to use OACs in non-high-risk patients. Application of OACs shortly after cardioversion due to AF is obligatory in all patients regardless of thromboembolic risk [5]. Therefore, in the present study, most non-high thromboembolic risk patients treated with OACs receive them in compliance with the guidelines. Interestingly, in the presented study, AF type or impaired kidney function were not shown to be the predictors of OAC use in patients at low thromboembolic risk. It has been reported that the aforementioned factors increase the risk of thromboembolic complications in patients with AF or predispose them to thrombus formation in the left atrial appendage [8–20]. Study results connected with anticoagulant overtreatment of patients with AF prove that it is common and most likely stems from using OACs due to temporary indications to anticoagulant therapy and from the presence of thromboembolic risk factors not included in the CHA_2DS_2-VASc score.

Limitation of the study

The presented study demonstrates clinical practice concerning the anticoagulant treatment in the Polish population of hospitalized patients with AF. The main limitation of the study, proceeding from its construction, is the lack of long-term observation which prevents evaluation of OAC use and no-OAC use influence on patients' prognosis. Another limitation is a small number of patients in the groups of low and intermediate thromboembolic risk, who were evaluated in this study. It results from the fact that POL-AF Registry comprised only hospitalized patients who are usually at high thromboembolic risk.

Table S1. Comparison of patients with non-high (low and intermediate) stroke risk treated and not treated with oral anticoagulant

Clinical characteristic	Intermediate stroke risk group n = 248			Low stroke risk group n = 94		
	OAC group n = 224	No-OAC group n = 24	p	OAC group n = 81	No-OAC group n = 13	p
Age	58.2 (9.0)	57.6 (11.8)	0.762	51.1 (9.8)	47.0 (14.3)	0.201
Mean (SD), years						
Female	80 (35.7)	9 (37.5)	0.863	23 (28.3)	2 (15.4)	0.335
Permanent AF	2 (2.5)	0 (0)	0.897	0 (0)	2 (2.5)	0.998
Medical history						
Hypertension	127 (56.7)	11 (45.8)	0.312	0 (0)	0 (0)	–
Heart failure	50 (22.3)	5 (20.8)	0.868	0 (0)	0 (0)	–
Vascular disease	5 (2.2)	2 (8.3)	0.111	0 (0)	0 (0)	–
Coronary artery disease	3 (1.3)	2 (8.3)	0.044	0 (0)	0 (0)	–
Previous myocardial infraction	1 (0.4)	0 (0)	0.998	0 (0)	0 (0)	–
Peripheral artery disease	2 (0.9)	0 (0)	0.998	0 (0)	0 (0)	–
Diabetes mellitus	2 (0.9)	1 (4.2)	0.206	0 (0)	0 (0)	–
Any previous bleeding	4 (1.8)	1 (4.2)	0.445	0 (0)	1 (1.2)	–
Gastrointestinal bleeding	2 (0.9)	0 (0)	0.998	0 (0)	0 (0)	–
Malignancy	1 (0.4)	4 (16.7)	< 0.001	3 (3.7)	1 (7.7)	0.518
Anaemia	20 (8.9)	9 (37.5)	< 0.001	8 (8.9)	2 (15.4)	0.495
eGFR < 60 mL/min/1.73 m^2	65 (29.0)	3 (12.5)	0.232	12 (14.8)	2 (15.4)	0.910
CHA_2DS_2VASc score	1.4 (0.48)	1.4 (0.5)	0.863	0.3 (0.5)	0.15 (0.4)	0.335
Mean (SD)						
HAS-BLED score	0.9 (0.5)	0,8 (0.5)	0.350	0.1 (0.3)	0.2 (0.6)	0.231
Mean (SD)						
Reason for hospitalization						
Electrical cardioversion	65 (29.0)	2 (8.9)	0.046	30 (37.0)	0 (0)	0.997
Planned coronarography/PCI	8 (3.6)	0 (0)	0.998	2 (2.5)	0 (0)	0.998
CIED implantation/reimplantation	12 (5.4)	1 (4.2)	0.805	1 (1.2)	0 (0)	0.998
Acute coronary syndrome	0 (0)	2 (8.3)	0.998	0 (0)	0 (0)	–
Heart failure	21 (9.4)	1 (4.2)	0.408	1 (1.2)	0 (0)	0.998
Ablation other than AF	12 (5.4)	1 (4.2)	0.805	7 (8.6)	1 (7.7)	0.910
AF without any procedures	40 (17.9)	2 (8.3)	0.251	14 (17.3)	4 (30.8)	0.260

OAC — oral anticoagulant; SD — standard deviation; AF — atrial fibrillation; eGFR — estimated glomerular filtration rate; PCI — percutaneous coronary intervention; CIED — cardiac implantable electronic device

Conclusions

The CHA_2DS_2-VASc score was not a predictor of OAC use in hospitalized AF patients. In the group of low thromboembolic risk patients with AF, temporary indications to use OACs have a big influence on a high percentage of OAC prescriptions.

Conflict of interests

Szpotowicz A, Uziębło-Życzkowska B, Maciorowska M, Wójcik M, Błaszczyk R, Budnik M, Gawałko M, Tokarek T, Rajtar-Salwa R, Bil J, Wojewódzki M, Bakuła-Ostalska E, Szyszowska A, Wełnicki M, Mamcarz M, Krzciuk M.: none. Gorczyca-Głowacka I: speaker for Boehringer-Ingelheim and

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Streszczenie

Wstęp. Doustne leki przeciwzakrzepowe (OAC) powinny być stosowane u pacjentów z migotaniem przedsionków (AF) zależnie od ryzyka zakrzepowo-zatorowego ocenianego za pomocą skali CHA_2DS_2-VASc. Celem badania była weryfikacja, czy wynik uzyskany w CHA_2DS_2-VASc wpływa na stosowanie OAC u pacjentów z AF, a także analiza predyktorów stosowania OAC u pacjentów cechujących sięz niewysokim (pośrednim i niskim) ryzykiem zakrzepowo-zatorowym.

Materiał i metody. Prezentowane badanie oparto na danych z Rejestru POL-AF, który jest prospektywnym, wieloośrodkowym badaniem obejmującym pacjentów ze zdiagnozowanym AF hospitalizowanych kolejno w 10 ośrodkach kardiologicznych od stycznia do grudnia 2019 roku.

Wyniki. Badaniem objęto 3956 pacjentów. Wysokie ryzyko powikłań zakrzepowo-zatorowych zaobserwowano u 91,4%, pośrednie u 6,3%, a niskie u 2,3%. Doustne leki przeciwzakrzepowe podano 81,1% pacjentów, w tym 91,5% obciążonych wysokim, 90,3% cechujących się pośrednim i 86,2% z niskim ryzykiem zakrzepowo-zatorowym. Wynik uzyskany w CHA_2DS_2-VASc nie był predyktorem stosowania OAC u wszystkich pacjentów z AF (iloraz szans (OR) 1,02, przedział ufności (CI): 0,96–1,08, p = 0,747]. W grupie pacjentów z niskim ryzykiem zakrzepowo-zatorowym czynnikiem predysponującym do przepisania OAC była hospitalizacja z powodu kardiowersji elektrycznej (OR 6,55, CI: 1,52–28,21, p = 0,012), w przeciwieństwie do niedokrwistości (OR 0,27, CI: 0,12–0,64, p = 0,003) oraz raka (OR 0,14, CI: 0,03–0,57, p = 0,006), co zmniejszało szansę na zastosowanie OAC w tej grupie.

Wnioski. Wynik uzyskany w CHA_2DS_2-VASc nie był predyktorem stosowania OAC w całej badanej kohorcie. U znacznej części pacjentów z AF nieobciążonych wysokim ryzykiem zakrzepowo-zatorowym zastosowano OAC, głównie ze wskazań przejściowych.

Słowa kluczowe: doustny antykoagulant, migotanie przedsionków, ryzyko zakrzepowo-zatorowe

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