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Abstract 13987: Underutilization of Oral Anticoagulant Therapy in At-Risk Patients With Atrial Fibrillation—Insights From a Multistate Healthcare System

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Underutilization of Oral Anticoagulant Therapy in At-Risk Patients with Atrial Fibrillation—Insights from a Multistate Health Care System

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Background

- Oral anticoagulant (OAC) therapy significantly reduces the risk of thromboembolism among at-risk patients with atrial fibrillation (AF)[1,2].
- Current guidelines provide strong support for use of OAC therapy in men and women with AF and CHA_2DS_2-VASc scores of $\geq$2 and $\geq$3, respectively[3].
- Previous national registry data has suggested that as many as 40% of these patients are not treated in accordance with guideline recommendations[4].

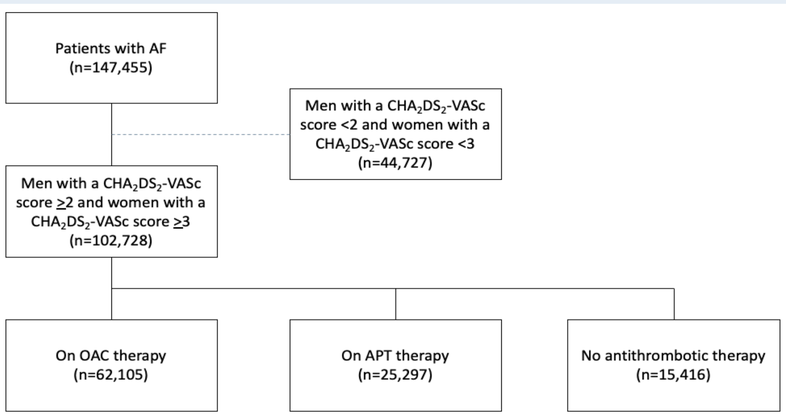
Objective

- Using real-world data from a large multistate health care system, we sought to evaluate the prevalence of OAC underuse and potential contributing factors in an ambulatory population of at-risk patients with AF.

Methods

- Cross-sectional analysis (August 1, 2018) of patients with AF from a multistate health care system.
- Electronic health record and coding (ICD-10) data was used to identify patients with AF, calculate their CHA_2DS_2-VASc score, and define their current antithrombotic regimen.
- Men with a CHA_2DS_2-VASc score <2 and women with a CHA_2DS_2-VASc score <3 were excluded from the analysis.
- Individuals on both OAC and antiplatelet therapy were classified as receiving OAC therapy.
- Demographics and comorbidities for 102,728 unique patients with AF were assessed to allow for comparison between those receiving an OAC from those who were not.
- Categorical variables were expressed as counts with percentages. Proportions of categorical variables were compared between groups by chi-square test or Fisher exact test, as appropriate. All significance tests were two tailed and a p value less than 0.05 was considered statistically significant. Tukey method was used for post-hoc multiple comparisons testing when needed.
- SAS version 9.4 (SAS Institute Inc.) was used for all analyses.

Figure 1 – Cohort selection flow diagram



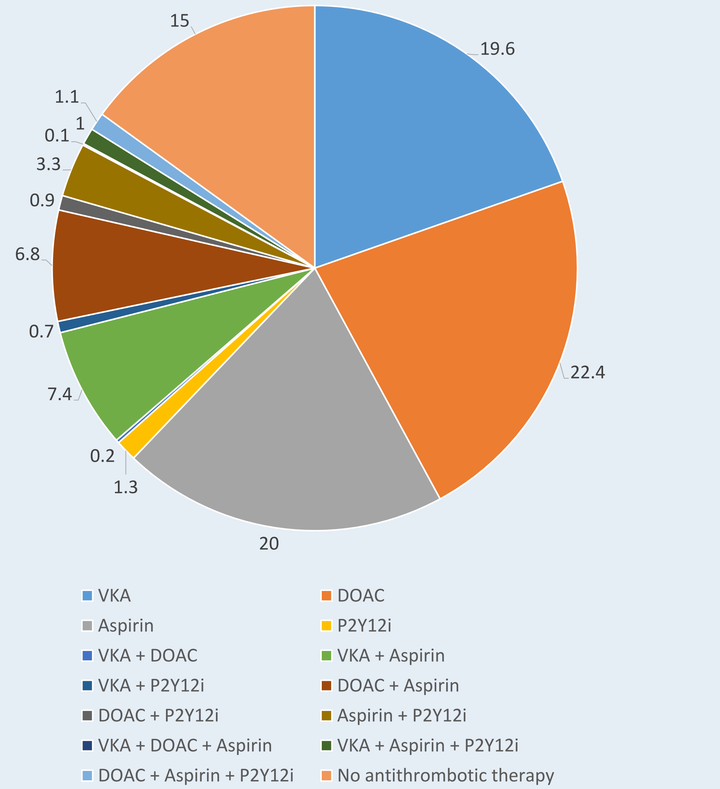
Results

Table 1 – Demographics. Counts with percentages of patients with AF overall, on OAC therapy, on APT therapy, or on no antithrombotic therapy with corresponding p values.

Variable	Overall (n=102728)	On OAC therapy (n=62015)	On APT therapy (n=25297)	No anti-thrombotic therapy (n=15416)	p value OAC vs. APT therapy	p value OAC therapy vs. no anti-thrombotic therapy	p value APT therapy vs. no anti-thrombotic therapy
Age ≥65 years	97200 (94.6)	58483 (94.3)	23957 (94.7)	14760 (95.7)	0.02	0.0001	0.0001
Gender (n, % male)	53783 (52.4)	32898 (53.1)	13494 (53.3)	7391 (47.9)	0.43	0.0001	0.0001
Race (n, %)					0.0003	0.0001	0.0939
American Indian or Alaska Native	635 (0.6)	378 (0.6)	170 (0.7)	87 (0.6)			
Asian	3171 (3.2)	1811 (3.0)	845 (3.4)	515 (3.4)			
Black or African American	1671 (1.7)	933 (1.5)	440 (1.8)	298 (2.0)			
Native Hawaiian or Other Pacific Islander	332 (0.3)	199 (0.3)	74 (0.3)	59 (0.4)			
Other	4030 (4.0)	2337 (3.9)	1020 (4.1)	673 (4.5)			
White or Caucasian	90323 (90.2)	54832 (90.7)	22136 (89.7)	13355 (89.1)			
Ethnicity (n, % Hispanic)	3144 (3.1)	1826 (3.0)	793 (3.2)	525 (3.5)	0.13	0.0021	0.1181
Insurance					0.0205	0.001	0.0779
Commercial	5569 (5.5)	3500 (5.7)	1290 (5.2)	779 (5.2)			
Medicaid	1405 (1.4)	812 (1.3)	348 (1.4)	245 (1.6)			
Medicare	90548 (89.5)	54850 (89.4)	22299 (89.7)	13399 (89.8)			
Other	3605 (3.6)	2197 (3.6)	912 (3.7)	496 (3.3)			
Hypertension (n, %)	62615 (61.0)	38468 (62.0)	15552 (61.5)	8595 (55.8)	0.1273	0.0001	0.0001
Diabetes (n, %)	21776 (21.2)	13396 (21.6)	5495 (21.7)	2885 (18.7)	0.6943	0.0001	0.0001
Coronary artery disease (n, %)	22670 (22.1)	13304 (21.5)	6959 (27.5)	2407 (15.6)	0.0001	0.0001	0.0001
Myocardial infarction (n, %)	3940 (3.8)	1904 (3.1)	1549 (6.1)	487 (3.2)	0.0001	0.57	0.0001
Stroke or TIA (n, %)	12710 (12.4)	7966 (12.9)	3059 (12.1)	1685 (10.9)	0.0024	0.0001	0.0004
Peripheral vascular disease (n, %)	7021 (6.8)	3977 (6.4)	2126 (8.4)	918 (6.0)	0.0001	0.0365	0.0001
Heart failure (n, %)	18586 (18.1)	11352 (18.3)	4576 (18.1)	2658 (17.2)	0.4531	0.0021	0.0301
Renal disease (n, %)	20193 (19.7)	11428 (18.4)	5476 (21.7)	3289 (21.3)	0.0001	0.0001	0.46
Liver disease (n, %)	1897 (1.9)	992 (1.6)	519 (2.1)	386 (2.5)	0.0001	0.0001	0.0027

- Among AF patients appropriate for OAC therapy based on their CHA_2DS_2-VASc score, antiplatelet therapy was more likely to be used in those with coronary artery disease (27.5% vs. 21.5%, p=0.0001), prior myocardial infarction (6.1% vs. 3.1%, p=0.0001), peripheral vascular disease (8.4% vs. 6.4%, p=0.0001) and renal disease (21.7% vs. 18.4%, p=0.0001).
- Among AF patients appropriate for OAC therapy based on their CHA_2DS_2-VASc score, no antithrombotic therapy was more likely to be used in women (52.1% vs. 46.9%, p=0.0001) and those with renal disease (21.3% vs. 18.4%, p=0.0001) and liver disease (2.5% vs. 1.6%, p=0.0001).

Figure 2 – Distribution of antithrombotic treatments. Men and women with AF and a CHA_2DS_2-VASc score $\geq$2 and $\geq$3, respectively.



Conclusions

- In a contemporary, non-registry setting, OAC underuse remains substantial among at-risk patients with AF.
- Further investigation into tools that facilitate implementation of guideline-directed medical therapy is needed to limit preventable thromboembolic events in this population.

References: 1. Atrial Fibrillation Investigators. *Arch Intern Med* 1994;154:1449-1457. 2. Ruff CT et al. *Lancet* 2014;383:955-962. 3. January CT et al. *J Am Coll Cardiol* 2019;74:104-132. 4. Marzec LN et al. *J Am Coll Cardiol* 2017;69:2475-2484.

AF = atrial fibrillation, APT = antiplatelet, DOAC = direct-acting oral anticoagulant, OAC = oral anticoagulant, P2Y12i = $P2Y_{12}$ inhibitor, VKA = vitamin K antagonist

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