Evolving antithrombotic treatment patterns in patients with newly diagnosed atrial fibrillation in GARFIELD-AF

A.J. Camm[1], G. Ambrosio[2], D. Atar[3], E. Berge[4], F. Cools[5], S.Z. Goldhaber[6], G. Kayani[7], Y. Koretsune[8], A.G.G. Turpie[9], A.K. Kakkar[7], for the GARFIELD-AF Investigators

[1]St George's University of London and Imperial College, London, UK; [2]University of Perugia School of Medicine, Perugia, Italy; [3]Oslo University Hospital Ullevål and University of Oslo, Oslo, Norway; [4]Oslo University Hospital Ullevål, Oslo, Norway; [5]AZ Klina, Brasschaat, Belgium; [6]Harvard Medical School, Boston, USA; [7]Thrombosis Research Institute, London, UK; [8]Institute for Clinical Research, National Hospital Organization, Osaka National Hospital, Osaka, Japan; [9]McMaster University, Hamilton, Canada

BACKGROUND

- Atrial fibrillation (AF) is a common arrhythmia that is associated with increased incidence and severity of cerebrovascular accident (CVA). Evidence-based guidelines for CVA prevention in AF recommend anticoagulation (AC) therapy for patients with additional risk factors for CVA[1–5]. In clinical practice, however, AC therapy can be used inappropriately, with some patients at high risk of CVA undertreated, and others at low risk apparently overtreated[6–8].
- Non-vitamin K antagonist (VKA) oral anticoagulants (NOACs) have been recommended as an alternative to VKAs, as they consistently reduced life-threatening, especially intracerebral, bleeding risk in clinical trials[9–13].
- Large-scale, real-world studies are required to explore the increasing use of NOACs and evolving treatment patterns of AC therapy in AF[6–8].

PURPOSE

- To study the evolving pattern of antithrombotic therapy in patients with newly diagnosed non-valvular atrial fibrillation (AF) and ≥1 investigator-defined stroke risk factor.

METHODS

- The Global Anticoagulant Registry in the FIELD – atrial fibrillation (GARFIELD-AF) is a large, contemporary, prospective, cohort registry of patients (aged ≥18 years) with newly diagnosed (<6 weeks) non-valvular AF and ≥1 investigator determined additional risk factor for CVA[4].
- This analysis includes patients enrolled in the first three sequential cohorts between March 2010 and June 2014. Baseline characteristics and antithrombotic therapy initiated at diagnosis were analysed by cohort.

RESULTS

- A total of 28,624 patients were enrolled prospectively at 1048 sites in 32 countries; all patients are included in this analysis. Baseline characteristics were similar in all three cohorts (Table 1).
- Over the three cohorts, the proportion of patients on AC therapy consistently increased (from 57.4% to 68.0%), whereas use of VKA ± antiplatelet (AP) and AP therapy alone decreased (from 53.2% to 40.8% and 30.2% to 20.1%, respectively). The use of NOACs ± AP increased from cohort to cohort (Cohort 1 4.1%; Cohort 2 13.8%; Cohort 3 26.0%).
- The increase in use of AC was lowest in patients with a CHA_2DS_2-VASc score of 1 (Figure 1). Use of AC in patients with a CHA_2DS_2-VASc score of 0 (but with an investigator-defined stroke risk factor) varied from 34.5 to 46%.
- Compared with patients aged <65 years, there was a greater proportion of AC use in patients aged >65 years, which increased across the cohorts (Figure 2).

Table 1. *Patient baseline characteristics by cohort*

	Cohort 1 (n=5500)	Cohort 2 (n=11,662)	Cohort 3 (n=11,462)
Female, %	43.6	43.9	45.3
Age at diagnosis, mean (SD)	69.8 (11.5)	69.8 (11.4)	69.6 (11.4)
Medical history, %			
CHF	18.7	21.5	13.0
CAD	19.3	20.2	19.0
ACS	10.1	9.1	11.2
Systemic embolism	0.6	0.6	0.7
Stroke/TIA	13.2	12.5	11.0
History of bleeding	3.1	2.8	2.5
History of hypertension	76.8	78.7	76.7
Diabetes	22.1	21.7	21.4
Mild/no CKD	87.6	85.6	88.8
Moderate-to-severe CKD	12.4	14.4	11.2
Risk score, mean (SD)			
CHA_2DS_2-VASc	3.2 (1.6)	3.3 (1.6)	3.2 (1.6)
HAS-BLED	1.5 (0.9)	1.5 (0.9)	1.4 (0.9)

ACS, acute coronary syndromes; CAD, coronary artery disease; CHF, congestive heart failure; CKD, chronic kidney disease; SD, standard deviation

Figure 1. *Antithrombotic treatment at baseline by risk score and cohort*

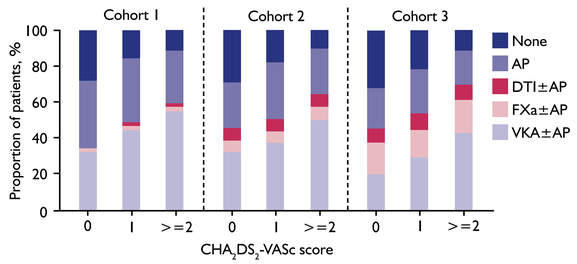
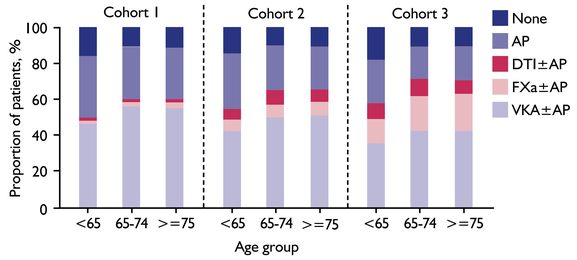


Figure 2. *Antithrombotic treatment at baseline by age and cohort*



- Higher levels of AC use were observed in data from Norway, The Netherlands and Italy (Figure 3a). NOAC use was highest in Belgium (Figure 3b). The lowest level of anticoagulant use was seen in China, and no treatment was most common in India (data not shown).
- In Cohort 3, NOACs accounted for the majority of anticoagulant medicines prescribed at baseline in around a third of countries (Figure 4).
- There was a large increase in NOAC use (5% to 29.6%), and a corresponding decrease in the use of AP (47.3% to 33%) across all cohorts in the cardiology speciality (Figure 5). Increases in total anticoagulant use from Cohort 1 to Cohort 3 in the cardiology and internal medicine specialities were due to increased use of NOACs. In the neurology and geriatrics specialities, a greater proportion of patients were untreated in Cohort 3, compared with Cohort 1.
- In all care settings, VKA±AP use decreased between Cohorts 1 and 3 (data not shown).

Figure 3a. *Antithrombotic treatment at baseline by country ordered by total anticoagulant use (all cohorts)*

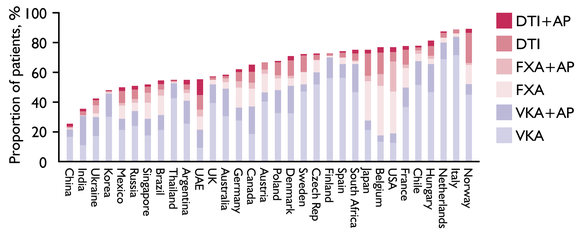


Figure 3b. *Antithrombotic treatment at baseline by country ordered by NOAC use (all cohorts)*

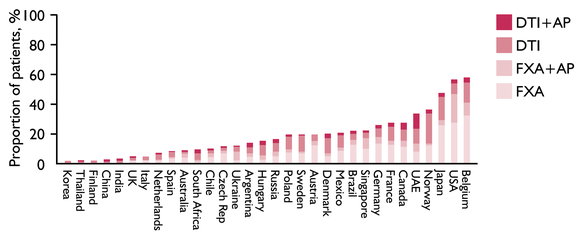


Figure 4. *All treatment at baseline by country in Cohort 3*

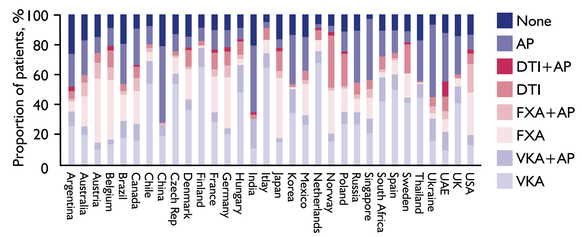
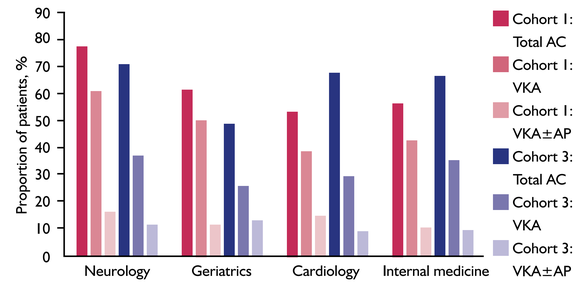


Figure 5. *VKA±AP (%) use by speciality in Cohorts 1 and 3*



CONCLUSIONS

- Since the introduction of NOACs, there has been a global increase in newly diagnosed at-risk AF patients receiving guideline recommended therapy.
- This has been predominantly driven by the increased use of NOACs and a reduction in treatment with VKA±AP or AP alone.
- Apparent overtreatment may be observed in patients with a CHA_2DS_2-VASc score of 0, where AC use has increased, with a greater proportion receiving NOACs.

DECLARATION OF INTEREST

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AJC: acted as a consultant to, and received honoraria from, Bayer, Biotronic, Boehringer-Ingelheim, Boston Scientific, Bristol-Myers Squibb (BMS), Cardiovascular Therapeutics, ChanRx, Daiichi, Medtronic, Menarini, Mitsubishi, Novartis, Richmond Pharmacology, Sanofi Aventis, Servier, St Jude Medical, Takeda and Xention; member of speaker bureau for, and received honoraria from, Pfizer.

GA: received research support from Menarini International; member of speaker bureaux for Boehringer Ingelheim, Menarini International and Merck; acted as a consultant/advisory board member for Menarini International, Merck and ACRAF.

DA: received honoraria from, and was a member of advisory boards for, Sanofi-Aventis, Merck (MSD), Boehringer Ingelheim, Bayer, BMS/Pfizer, Daiichi Sankyo and Nycomed-Takeda.

EB: No conflicts to declare.

FC: acted as a consultant/member of advisory boards for Bayer and Boehringer Ingelheim; received honoraria from BMS.

KAAF: received research support from Bayer, Janssen, Sanofi, Lilly and AstraZeneca.

SZG: received research support from BMS, BTG, Daiichi and NHLBI; acted as a consultant/advisory board member for Boehringer-Ingelheim, BMS, Daiichi, Janssen and Portola.

GK: no conflicts to declare.

YK: received research support from BMS and Boehringer Ingelheim and honoraria from Pfizer, Bayer, Daiichi Sankyo, BMS Boehringer Ingelheim and Eisai.

AGGT: received honoraria from Janssen, Bayer Healthcare, Boehringer Ingelheim, Pfizer and BMS; acted as a member of speaker bureaux for Janssen, Bayer Healthcare, Boehringer Ingelheim, Pfizer and BMS.

AKK: received research support from Bayer HealthCare and Armetheon; acted as a consultant/advisory board member and/or received honoraria from Bayer HealthCare, Sanofi-Aventis, Boehringer Ingelheim, Daiichi Sankyo, Armetheon and Aspen.

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AF Garfield — global anticoagulant registry in the field

TRI Thrombosis Research Institute

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