

# One-year clinical outcomes and management of patients with ischaemic vs non-ischaemic cardiomyopathy and newly diagnosed atrial fibrillation: results from GARFIELD-AF

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## BACKGROUND

- Atrial fibrillation (AF) is commonly associated with congestive heart failure (CHF) and their combined presentation in patients is associated with a worse prognosis than either condition alone<sup>1</sup>.
- There are few data on how many AF patients with or without CHF receive appropriate antithrombotic therapies in routine clinical practice, or whether the rates of stroke/systemic embolism (SE), major bleeding, and all-cause mortality are different.
- This is particularly relevant in patients with AF and ischaemic or non-ischaemic cardiomyopathy since the prescription of antithrombotic therapies might be different and could affect prognosis.
- There is also evidence to suggest that AF is associated with higher mortality in patients with ischaemic heart disease but not those with non-ischaemic heart disease<sup>2,3</sup>.

## PURPOSE

- To assess antithrombotic therapy and 1-year outcomes in patients with newly diagnosed AF and CHF stratified by aetiology (ischaemic vs non-ischaemic cardiomyopathy), compared to patients without CHF.

## METHODS

- GARFIELD-AF is an ongoing, international, non-interventional registry. Intervention in patients is neither mandated nor defined in the protocol, so that the registry reflects real-world management of patients in everyday practice.
- Consecutively recruited patients aged  $\geq 18$  years with newly diagnosed ( $\leq 6$  weeks' duration) AF and  $\geq 1$  investigator-determined stroke risk factor(s)<sup>4</sup> were analysed.
- Patients with ischaemic cardiomyopathy were defined as having a history of or current coronary artery disease (including myocardial infarction/unstable angina, any prior stenting or coronary artery bypass grafting procedure, or stable angina).
- We analysed baseline characteristics, antithrombotic therapy, CHF therapy, and 1-year incidence of outcomes in patients with ischaemic or non-ischaemic cardiomyopathy, as well as a cohort without CHF.

## RESULTS

### PATIENT CHARACTERISTICS

- 39 898 patients were enrolled into GARFIELD-AF from 35 countries from Mar 2010–Sep 2015.
- At baseline, 31 879 patients had no CHF. Among the 7371 patients with CHF, 2520 (34.2%) had ischaemic cardiomyopathy and 4851 (65.8%) non-ischaemic cardiomyopathy.
- A greater proportion of patients with ischaemic cardiomyopathy than those with non-ischaemic cardiomyopathy were in New York Heart Association Class III–IV (38.6% vs 28.9%).
- Moderate-to-severe chronic kidney disease was less common in patients without CHF than in those with CHF (Table 1).
- Patients with CHF had a higher median CHA<sub>2</sub>DS<sub>2</sub>-VASc score than those without CHF (Table 1).
- Compared to patients with non-ischaemic cardiomyopathy or no CHF, patients with ischaemic cardiomyopathy were more frequently diagnosed with AF at a hospital (63.8% vs 56.1% vs 78.5%, respectively) and less often in an office setting (25.3% vs 31.1% vs 14.7%, respectively).

**Table 1. Baseline characteristics of patients with no congestive heart failure, non-ischaemic cardiomyopathy, or ischaemic cardiomyopathy**

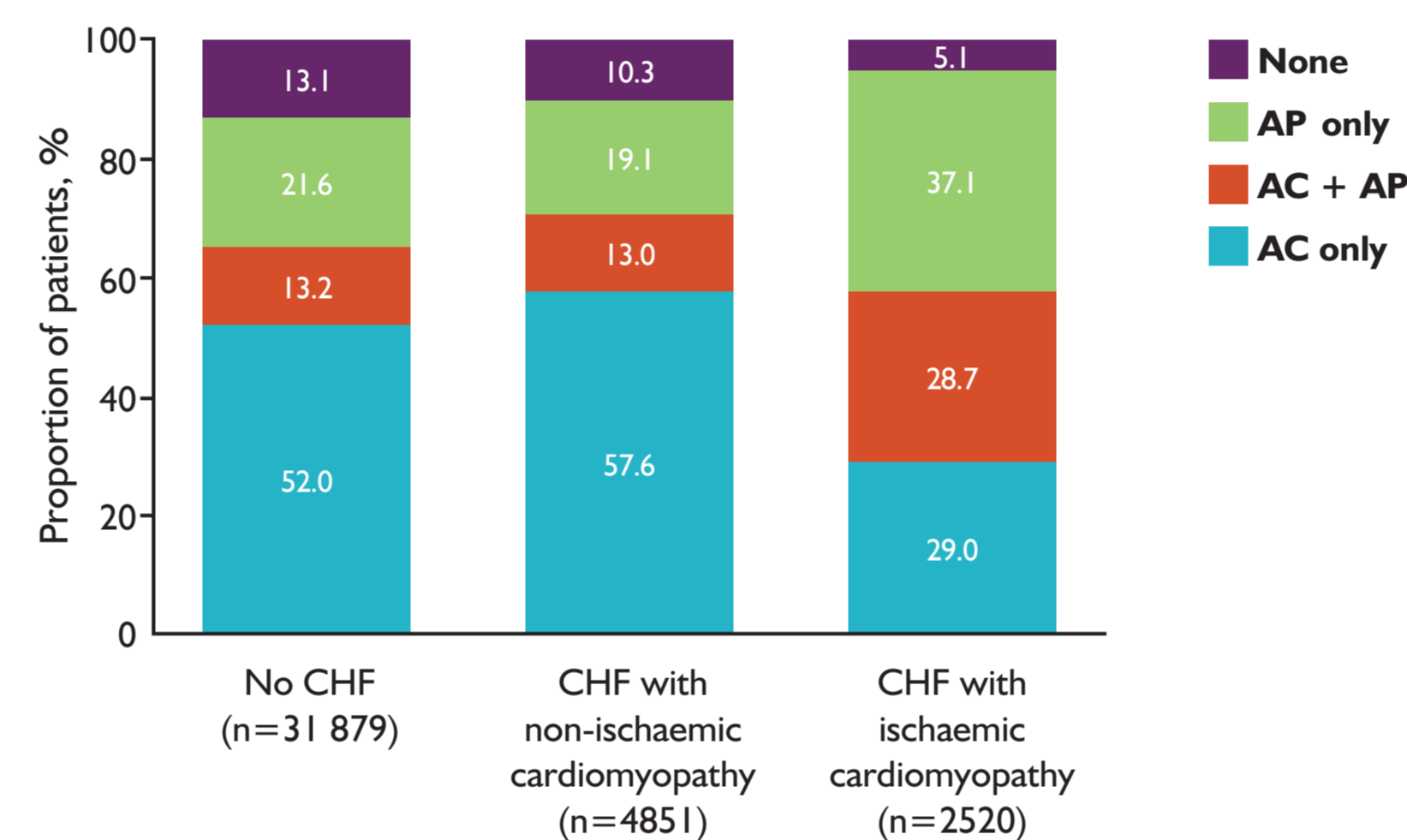
	No CHF (n=31 879)	CHF with non-ischaemic cardiomyopathy (n=4851)	CHF with ischaemic cardiomyopathy (n=2520)
Age at diagnosis, years, median (IQR)	71.0 (63.0 to 78.0)	71.0 (62.0 to 79.0)	72.0 (63.0 to 78.0)
Women, %	44.1	46.5	41.6
<b>Medical history, %</b>			
Coronary artery disease	17.1	8.5	92.4
LVEF <40%	5.6	22.8	24.0
Carotid occlusive disease	3.0	2.6	5.1
Stroke/TIA	11.7	10.2	13.7
History of hypertension	76.0	76.0	87.5
Diabetes mellitus	21.2	21.0	29.9
Moderate-to-severe CKD	9.1	14.1	17.0
Dementia	1.2	2.9	1.8
CHA <sub>2</sub> DS <sub>2</sub> -VASc score, median (IQR)	3.0 (2.0 to 4.0)	4.0 (3.0 to 5.0)	4.0 (3.0 to 6.0)

CHF, congestive heart failure; CKD, chronic kidney disease; IQR, interquartile range; LVEF, left ventricular ejection fraction; TIA, transient ischaemic attack.

### ANTITHROMBOTIC THERAPIES

- Patients with ischaemic cardiomyopathy were less likely to receive anticoagulant (AC) therapy alone and more likely to receive antiplatelet (AP) therapy, alone or in combination with AC therapy, compared to patients with non-ischaemic cardiomyopathy or those with no CHF (Figure 1).

**Figure 1. Antithrombotic therapy at diagnosis in patients with no congestive heart failure, with non-ischaemic cardiomyopathy, or with ischaemic cardiomyopathy**



AC, anticoagulant; AP, antiplatelet; CHF, congestive heart failure.

### CONGESTIVE HEART FAILURE THERAPIES

- The proportion of patients prescribed any CHF medication was lower in the group with ischaemic cardiomyopathy than in those with non-ischaemic cardiomyopathy (Table 2).

**Table 2. Congestive heart failure therapies at baseline**

Proportion of patients, %	CHF with non-ischaemic cardiomyopathy (n=4851)	CHF with ischaemic cardiomyopathy (n=2520)
ACE-I or ARA-II	74.6	62.4
Betablocker	61.5	50.3
Loop or other diuretic	58.9	55.4
Aldo	22.6	17.7
Digoxin and other digitalis	8.3	6.0
Patients with any CHF therapy	92.6	86.0

ACE-I, angiotensin-converting enzyme inhibitor; ARA-II, angiotensin II receptor antagonist; Aldo, aldosterone antagonist; CHF, congestive heart failure.

### CLINICAL OUTCOMES

- Patients with CHF (ischaemic or non-ischaemic) had higher rates of all-cause mortality, cardiovascular mortality, non-cardiovascular mortality, undetermined causes of mortality, and new or worsened CHF compared to patients with no CHF (Table 3).
- Rates of all-cause mortality, cardiovascular mortality, and new ACS were higher in patients with ischaemic cardiomyopathy than in those with non-ischaemic cardiomyopathy (Table 3).

**Table 3. Incidence event rates during 1-year follow-up in patients with no congestive heart failure, with non-ischaemic cardiomyopathy, or with ischaemic cardiomyopathy**

Rate per 100 person-years (95% confidence interval)	No CHF (n=31 879)	CHF with non-ischaemic cardiomyopathy (n=4851)	CHF with ischaemic cardiomyopathy (n=2520)
Stroke/systemic embolism	1.32 (1.19; 1.45)	1.80 (1.45; 2.24)	2.17 (1.65; 2.87)
Major bleeding	0.87 (0.77; 0.98)	0.80 (0.58; 1.11)	1.04 (0.70; 1.55)
All-cause mortality	3.28 (3.08; 3.49)	7.08 (6.34; 7.90)	10.45 (9.21; 11.85)
Cardiovascular mortality	1.11 (0.99; 1.23)	3.14 (2.66; 3.70)	6.30 (5.36; 7.41)
Non-cardiovascular mortality	1.35 (1.23; 1.49)	2.30 (1.90; 2.79)	2.12 (1.60; 2.80)
Undetermined cause	0.82 (0.73; 0.93)	1.64 (1.30; 2.06)	2.03 (1.52; 2.70)
New acute coronary syndromes	0.71 (0.62; 0.81)	0.77 (0.56; 1.08)	2.13 (1.61; 2.81)
New or worsened CHF	1.09 (0.98; 1.21)	7.82 (7.03; 8.69)	7.56 (6.50; 8.79)

CHF, congestive heart failure.

## CONCLUSIONS

- A third of patients with CHF had ischaemic cardiomyopathy.
- These patients had worse outcomes compared to patients with non-ischaemic cardiomyopathy; they were less frequently anticoagulated and more often received AP therapy, alone or in combination with AC therapy.
- They were also less likely to receive CHF medications than patients with non-ischaemic cardiomyopathy.

## CLINICAL IMPLICATIONS

- Poor prognosis is linked to the aetiology of CHF.
- Suboptimal treatment may have an impact on outcomes.
- We speculate that polypharmacy may explain the inadequacy of treatment in ischaemic cardiomyopathy (therapies for AF and CHF).

### ACKNOWLEDGEMENTS

We thank the physicians, nurses, and patients involved in the GARFIELD-AF registry. SAS programming support was provided by Madhusudana Rao (Thrombosis Research Institute, London, UK). Editorial assistance was provided by Emily Chu (Thrombosis Research Institute, London, UK).

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### DECLARATION OF INTEREST

The GARFIELD-AF registry is funded by an unrestricted research grant from Bayer AG (Berlin, Germany).

RC: None; J-PB: None; WAM: None; GA: Personal fees from Merck, Menarini, Angelini, Behring; H Gao: none; H Gibbs: Personal fees from Pfizer, Bayer, Boehringer Ingelheim; SZG: Grants from BIO2 Medical, Boehringer-Ingelheim, Bristol Myers Squibb, BTG EKOS, Daiichi Sankyo, National Heart Lung and Blood Institute of the National Institutes of Health, Janssen, Thrombosis Research Group, personal fees from Bayer, Boehringer-Ingelheim, Bristol Myers Squibb, Daiichi Sankyo, Janssen, Portola; CJ-S: Personal fees from Bayer, Boehringer Ingelheim, Pfizer; J-YLH: Personal fees from Boehringer Ingelheim, Bayer, BMS/Pfizer, Daiichi Sankyo, Servier, Meda, AstraZeneca, Sanofi; EP: Personal fees from Sanofi, Takeda, Boehringer Ingelheim, Pfizer, Bristol-Myers Squibb, Bayer, AstraZeneca; AP: Research grant from Servier, personal fees from Bayer, BHFZ; AC/PB: Personal fees from Servier, Novartis, AstraZeneca; J Steffel: Personal fees from Amgen, AstraZeneca, Alncura, Bayer, Biosense Webster, Biotronik, Boehringer-Ingelheim, Boston Scientific, Bristol-Myers Squibb, Cook Medical, Daiichi Sankyo, Medtronic, Novartis, Pfizer, Sanofi-Aventis, Sorin, St. Jude Medical, Zoll, co-director of CorXL, grant support through his institution from Bayer Healthcare, Biosense Webster, Biotronik, Boston Scientific, Daiichi Sankyo, Medtronic, St. Jude Medical; J Stepinska: Grants from Bayer, personal fees from Bayer, Boehringer Ingelheim, BMS/Pfizer, Novartis, Servier, Amgen, Sanofi, expert witness for Boehringer Ingelheim; AKK: Research support from Bayer AG, personal fees from Bayer AG, Boehringer-Ingelheim Pharma, Daiichi Sankyo Europe, Janssen Pharma, Sanofi SA.

