

GARFIELD-AF: Understanding Atrial Fibrillation

GARFIELD-AF is a pioneering, independent outcomes research initiative aiming to enhance the breadth and depth of understanding of stroke prevention in atrial fibrillation (AF).

ABOUT GARFIELD-AF



The **largest** prospective AF registry



Newly diagnosed AF patients from **35 countries**



1,352 sites representative of national AF care settings



Recruitment complete: **57,262 patients** enrolled



5 sequential prospective cohorts



Follow-up period: **at least 2 years and up to 8 years; 2-year outcomes data** available

REPRESENTING MULTIPLE ETHNIC GROUPS AND CARE SETTINGS



First patient enrolled

Start of prospective enrolment

Last patients enrolled

Study end

The registry offers a unique opportunity to bridge the gap between research and clinical practice, serving to increase awareness of the importance of thrombosis and its treatment.

Here are some of its most impactful findings:

COMPARATIVE EFFECTIVENESS AND ALL-CAUSE MORTALITY



THE STUDY^{1,2}

Comparative effectiveness provides a measure of the benefits and risks of treatments delivered to the diversity of patients in everyday practice.

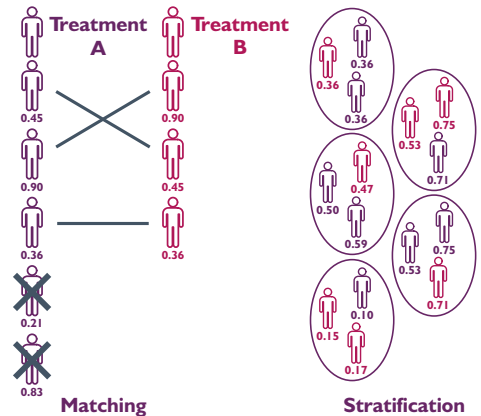
When using real-world evidence, we need to account for differences of characteristics between patients. Treatments are not allocated randomly – physicians choose them based on the patient – which could be the reason for the differences in outcomes.

For a hypothetical example, say physicians thought Treatment A should not be given to the elderly. Then Treatment B would have most of the elderly patients, who are expected to have worse outcomes. So differences in outcomes may be due to age and not treatment at all.

Statistical methods have been developed to account for these imbalances such as:

- **Propensity score weighting** – develop a score for the likelihood (propensity) of receiving Treatment A, then use these weighted probabilities in a statistical model of having the clinical outcome of interest.
- **Propensity score matched cohorts** – match patients in Treatment A to patients in Treatment B who are similar in their probability to receive A. For example, a patient, treated with A, who has a 10% probability of receiving A may be matched with a patient treated with B who has a 9.8% probability of receiving A. Then the clinical endpoints are compared across all matched pairs.

Propensity Scores



THE RESULTS

Analyses of GARFIELD-AF data show that there are significant improvements in mortality rates after treating patients with anticoagulants for stroke prevention, even after adjustment for 31 baseline variables in this study. Differences in mortality between patients are observed as early as 3 months after diagnosis of AF and extend to patients follow-up for 2 years.

Relative effectiveness of oral anticoagulants in reducing all-cause mortality over time since start of treatment in patients with a CHA₂DS₂-VASc score ≥ 2 (including gender)

At 3 months follow-up

46% reduction in all-cause mortality with OACs VS non OAC

32% reduction in all-cause mortality with NOACs VS VKAs

At 2 years follow-up*

17% reduction in all-cause mortality with OACs VS non OAC

19% reduction in all-cause mortality with NOACs VS VKAs

*Note: These analyses consider the initial treatment only. The treatment effect may vary when future analyses reflect changes in use of therapies during the follow-up period.



WHAT WE LEARNED

Effectiveness of ACs observed in randomised clinical trials can be translated to a broad cross-section of patients who are treated in everyday practice



GARFIELD-AF: Understanding Atrial Fibrillation (continued)

RISKS AND OUTCOMES OF AC+AP³

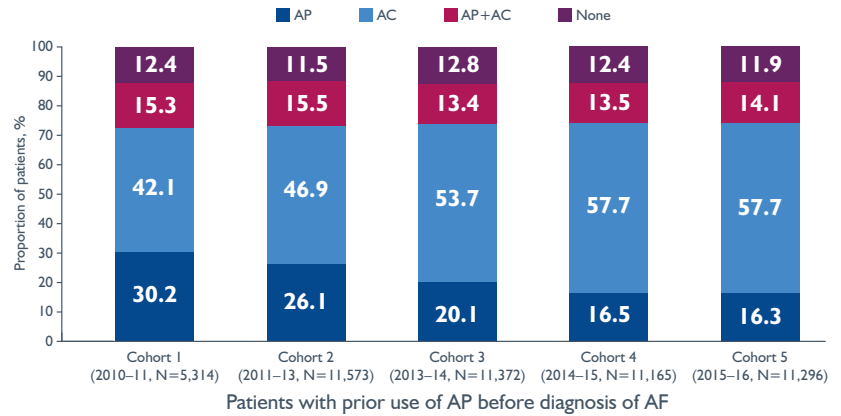


THE STUDY

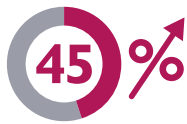
In patients with AF and elevated risk of stroke, ACs are indicated for stroke prevention.

The aim of this analysis was to determine **whether adding antiplatelet (AP) agents to AC**, in those without a clear indication for AP, would provide a **benefit or harm**.

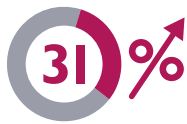
The use of combined **AC+AP therapy** as an initial treatment in newly diagnosed AF has remained **fairly constant over the six years of enrolment** into GARFIELD-AF.



THE RESULTS



Overall, treatment with AC+AP compared to AC alone was associated with an increased risk of major bleeding – a **45% increase**



...and an increase in all-cause mortality of **31%**
All without an accompanying reduction in the risk of stroke



WHAT WE LEARNED



Adding **AP** to **AC** in patients without a clear indication for AP has a worse prognosis than **AP** alone

THE IMPACT OF USING THE RECOMMENDED NOAC DOSE⁴



THE STUDY

WHAT WE'RE EVALUATING

Does dosing of NOACs in everyday practice conform with recommended dosing?

What is the impact of non-recommended NOAC dosing on all-cause mortality at 1 year in patients with newly diagnosed AF?



Of patients enrolled consecutively into GARFIELD-AF between



10,417



from **35 countries** were eligible for the analysis

Recommended dosing was determined according to differing country criteria, including:



THE RESULTS

More than 70% of patients received the correct dose of NOACs*



*Edoxaban was not included because there were too few patients



Non-recommended low dosing according to country-specific guidelines is associated with a **51% higher rate of all-cause mortality**



WHAT WE LEARNED



Most patients receive the **recommended NOAC dose**



...but **prescription of non-recommended doses is associated with an increased risk of death**

References

- 1 Keith A.A. Fox. Evaluation of the effects of oral anticoagulants on all-cause mortality within 3 months of the diagnosis of atrial fibrillation. ESC Congress 2018 Poster Presentation Nr 2895.
- 2 John Camm et al. Comparative effectiveness of oral anticoagulants in everyday practice. Late Breaking Registry Results 2. ESC Congress 2018 Oral Presentation Nr 5876.
- 3 Keith A.A. Fox. Adverse one-year outcomes for patients newly treated with oral anticoagulants plus antiplatelet therapy after a diagnosis of atrial fibrillation: Results from the GARFIELD-AF prospective registry Late Breaking Registry Results 2. Oral Presentation Nr 5878.
- 4 John Camm et al. The effect of non-recommended dosing of non-vitamin K antagonist oral anticoagulants (NOACs) on 1-year mortality in patients with newly diagnosed AF? Results from the GARFIELD-AF registry Results 2. ESC Congress 2018 Oral Presentation Rapid Fire Nr 1354.