Guideline-directed medical therapies for comorbidities among patients with atrial fibrillation: results from GARFIELD-AF

A.J. Camm[1], J. Steffel[2], S. Virdone[3], J.-P. Bassand[4], D.A. Fitzmaurice[5], K.A.A. Fox[6], S.Z. Goldhaber[7], S. Goto[8], S. Haas[9], A.G.G. Turpie[10], F.W.A. Verheugt[11], F. Misselwitz[12], G. Kayani[3], K.S. Pieper[3], A.K. Kakkar[13]

[1]St George's University of London, Cardiology Clinical Academic Group Molecular & Clinical Sciences Research Institute, London, United Kingdom; [2]University Hospital Zurich, Zurich, Switzerland; [3]Thrombosis Research Institute, London, United Kingdom; [4]Thrombosis Research Institute, London, UK and University of Besançon, Besançon, France; [5]University of Warwick, Coventry, United Kingdom; [6]University of Edinburgh, Edinburgh, United Kingdom; [7]Brigham and Women'S Hospital, Harvard Medical School, Boston, United States of America; [8]Tokai University School of Medicine, Kanagawa, Japan; [9]Technical University of Munich, Formerly Department of Medicine, Munich, Germany; [10]McMaster University, Hamilton, Canada; [11]Onze Lieve Vrouwe Gasthuis (OLVG), Amsterdam, Netherlands (The); [12]Bayer AG, Berlin, Germany; [13]Thrombosis Research Institute and University College London, London, United Kingdom

On behalf of GARFIELD-AF Investigators

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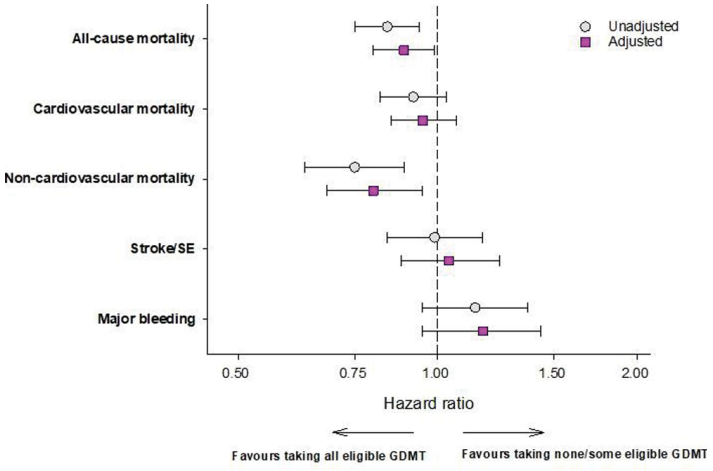
Introduction: The GARFIELD-AF registry is a prospective, multicentre, observational study of adults with recently diagnosed non-valvular atrial fibrillation (AF) and at least one risk factor for stroke. In GARFIELD-AF the absolute risk reduction of mortality associated with anticoagulation is far greater than the apparent absolute risk reduction in (ischemic) stroke. One potential explanation is improved treatment, with the use of comprehensive guideline-directed medical therapies (GDMT), in patients with AF receiving oral anticoagulant (OAC) therapy. The objectives were to identify the potential relationships between anticoagulation status, GDMT use and clinical outcomes.

Methods: Use of GDMT was determined on the basis of published European Society for Cardiology guidelines operative between 2010 and 2016. We explored the use of GDMT in patients enrolled in GARFIELD-AF (March 2010-Aug 2016) with CHA2DS2-VASc $\geq$2 and with one or more of five comorbidities–coronary artery disease, diabetes mellitus, heart failure, hypertension and peripheral vascular disease. Association between GDMT use and clinical outcomes events was evaluated with Cox-proportional hazards models. The models included stratification by all possible combinations of the five comorbidities used to define GDMT eligibility.

Results: The study population comprised of 39,946 patients who had one or more comorbidities (3238 [8.1%] received none of the GDMT, 17,398 [43.6%] received some, and 19,310 [48.3%] received all of the GDMT for which they were eligible). Patients on OAC tended to receive all the GDMTs more frequently compared to patients on no OAC (50.2% vs 44.8%, respectively).

Comprehensive GDMT was associated with a lower risk of all-cause mortality (HR: 0.89 [0.80–0.99]) and non-cardiovascular mortality (0.80 [0.68–0.95]) compared to inadequate or no GDMT but was not associated with a lower risk of stroke (HR: 1.04 (0.88–1.24)] (Figure). The effect of OAC was beneficial for mortality and stroke risk whether receiving comprehensive GDMT or not.

Conclusion: OAC therapy is associated with a lower risk of all-cause mortality, non-cardiovascular mortality and stroke/SE in comparison with no OAC, irrespective of GDMT use in patients with CHA2DS2-VASc $\geq$2. Although the use of GDMT is associated with a significant reduction in mortality, there is little evidence that this explains the decrease in mortality with the use of OAC.



[1]Hazard ratios are adjusted for age, sex, ethnicity, type of AF, prior stroke/TIA/SE, history of bleeding, moderate-to-severe CKD, anticoagulation at baseline, smoking status and heavy alcohol consumption. A robust covariance estimate is included in order to account for correlation within country. Models include stratification by all possible combinations of the five comorbidities used to define GDMT eligibility.

GDMT use at two years of follow-up