Comparative effectiveness of NOAC vs VKA in AF patients presenting with common clinical challenges: Results from the GARFIELD-AF registry

S. Virdone[1], JCL. Himmelreich[1], KS. Pieper[1], AJ. Camm[2], J-P. Bassand[1,3], KAA. Fox[4], DA. Fitzmaurice[5], SZ. Goldhaber[6], S. Goto[7], S. Haas[8], G. Kayani[1], F. Misselwitz[9], AGG. Turpie[10], FWA. Verheugt[11], AK. Kakkar[1] for The GARFIELD-AF Investigators

1. Thrombosis Research Institute, London, UK, 2. Cardiology Clinical Academic Group, St. George's University of London, London, UK, 3. University of Besançon, Besançon, France, 4. Centre for Cardiovascular Science, University of Edinburgh, Edinburgh, UK, 5. Warwick Medical School, University of Warwick, Coventry, UK, 6. Brigham and Women's Hospital and Harvard Medical School, Boston, MA, USA, 7. Tokai University School of Medicine, Kanagawa, Japan, 8. Formerly Technical University of Munich, Munich, Germany, 9. Formerly Bayer AG, Berlin, Germany, 10. McMaster University, Hamilton, ON, Canada, 11. Onze Lieve Vrouwe Gasthuis (OLVG), Amsterdam, The Netherlands

Background

- Large phase III AF trials have shown a favourable risk-to-benefit ratio with NOAC compared to VKA
- Although the results of these trials are directly applicable to many AF patients, important subsets of patients were under-represented
- Uncertainty remains about the safety and effectiveness of NOAC therapy in common challenging scenarios

Purpose

- To compare the impact of NOAC vs VKA in settings where clinical uncertainty still exists

Methods

- GARFIELD-AF is the largest prospective, multi-national, prospective registry of adults with recently diagnosed AF
- Recruitment took place in five independent sequential cohorts from 35 countries. Cohorts 3-5 (recruitment: April 2013-August 2016) were included in this analysis, as NOAC had not yet been introduced into many countries during the recruitment period for Cohort 1 (2010-2011) and 2 (2011-2013)
- Only patients with an indication for anticoagulation (CHA_2DS_2-VASc score ≥2 excl. gender) and treated with NOAC or VKA at baseline were considered for this study
- Hazard ratios for NOAC versus VKA were obtained through Cox models using the propensity method of overlap weighting to balance covariates in the population

Results

GARFIELD-AF (cohorts 3 to 5)
N = 34,903

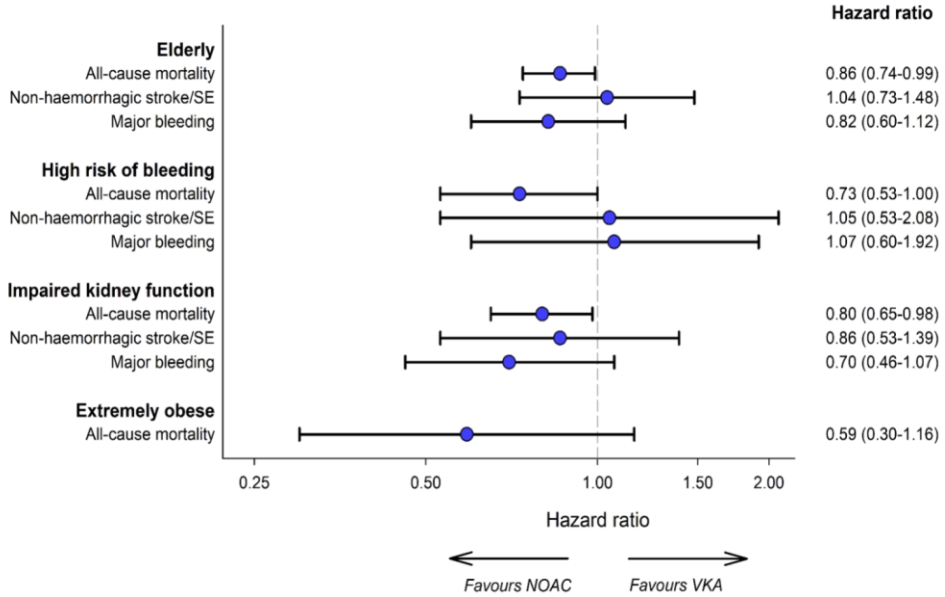
Excluded:
- Not treated with NOAC or VKA
- CHA_2DS_2-VASc <2 (excl. gender)

Common clinical challenges (CCC) groups

Elderly	High risk of bleeding	Impaired kidney function	Extremely obese
N = 8607	N = 1711	N = 4460	N = 684
Age ≥75	HAS-BLED ≥3 or a prior bleeding	CKD stage II to IV	Weight ≥120 kg or BMI >40 kg/m²

- NOAC were prescribed to 50-55% of patients in the common clinical challenges (CCC) groups. Patients with high risk of bleeding and impaired kidney function were less likely to receive NOAC than the overall population (-5.4% and -4.7%, respectively)

Figure. Propensity score weighted hazard ratios comparing NOAC vs VKA (reference) baseline treatment at two years of follow-up by CCC group



- Propensity-weighted hazard ratios for all-cause mortality favored NOAC (vs VKA) in three CCC groups: 0.86 (95% CI: 0.74-0.99) for elderly patients, 0.73 (0.53-1.00) for patients with increased bleeding risk, and 0.80 (0.65-0.98) for patients with renal impairment

Conclusions

- In three of the selected common challenging scenarios of patients with AF, there were significant all-cause mortality reductions in favour of NOAC compared to VKA
- These observations indicate the potential of NOAC treatment in patients who are elderly, at increased bleeding risk, or renally impaired

Poster presented at the ESC Congress, 27 - 30 August, 2021

This work is supported by KANTOR CHARITABLE FOUNDATION for the Kantor-Kakkar Global Centre for Thrombosis Science