

**REAL WORLD DATA FROM 13,835 PATIENTS WITH ATRIAL FIBRILLATION (AF)
IN 6 ASIAN COUNTRIES SHOW REMARKABLE DIFFERENCES IN PATIENT
PROFILES, RISK FACTORS FOR MAJOR CARDIOVASCULAR EVENTS,
TREATMENT PATTERNS AND ECONOMIC BURDEN**

- *One-year after a diagnosis of AF, all-cause mortality was high in India and low in Korea and Japan*
- *Stroke/SE rates were similar to the global average in all Asian countries, but highest in Singapore and lowest in India*
- *Major bleeding rates were low in Japan but lowest in China and India and highest in Korea*
- *Asian patients with AF have similar rates of diabetes to non-Asians, and less moderate-to-severe chronic kidney disease (CKD), but both occur at a younger age*
- *Direct costs per patient, per year attributable to AF are over ¥521,000* in Japan versus over ¥14,000* in China*

Yokohama, Japan, 18th September 2017, 08:00am JST – The latest results from one of the largest, ongoing global disease registries in AF, the Global Anticoagulant Registry in the Field – Atrial Fibrillation (GARFIELD-AF), show that there are significant differences in the characteristics of patients with AF in Asia as well as in their risk factors and treatment patterns. The differences were observed between Asian and non-Asian patients, as well as between patients across Asia, and between the direct costs of AF in Asian countries.

These results were among the findings unveiled by the London-based Thrombosis Research Institute (TRI) in three oral presentations and at a Teatime Seminar at the joint meeting of the 10th Asia Pacific Heart Rhythm Society Session (APHRS) and the 64th Annual Meeting of the Japanese Heart Rhythm Society which took place in Yokohama, Japan last week.

A total of 52,081 patients were enrolled prospectively between March 2010 and August 2016 in GARFIELD-AF globally, including 13,835 (26.6%) patients from 419 centres in 6 Asian countries – China, India, Japan, Singapore, South Korea and Thailand. Examining the baseline characteristics and treatment patterns in patients with newly diagnosed AF, the GARFIELD-AF researchers found that¹:

- The oldest cohorts of patients in the GARFIELD-AF registry with newly diagnosed AF were from Japan. The median age at diagnosis was 72 years in **Japan**, 69 years in **China**, 68 years in **Singapore**, 67 years in **India** and **Thailand** and 66 years in **South Korea**.
- **Japanese** patients had the highest frequency (24.6%) of congestive heart failure (CHF).
- More patients in **Singapore** than other Asian countries had a history of hypertension (76.7% vs 63.3-71.3%).
- Diabetes was most frequent in **India** (36.3%) compared to the rest of Asia (18.3-29.5%).

* All currency in Japanese Yen

- Moderate-to-severe CKD was prevalent in **Singapore** (20.1%) but not in **South Korea** or **China** (3.8 and 4.1%, respectively).
- Prior stroke/transient ischaemic attack (16.2%) and vascular disease (23.7%) were most frequent in **China**.
- Use of antiplatelet (AP) monotherapy was highest in **China**, while vitamin K antagonists (VKAs) with or without APs were most commonly prescribed in **Thailand** and **South Korea**.
- Use of non-vitamin K oral anticoagulants (NOACs) with or without AP prescription was highest in **Japan**.

With diabetes mellitus (DM) being a common comorbidity in patients with AF, the GARFIELD-AF researchers also looked at risk factor profiles and management of 2,977 Asian patients with DM compared with 10,858 Asian patients without DM and non-Asian patients. They found that:

- A similar proportion of patients in Asia and other regions had DM².
- At the time of AF diagnosis, Asians with/without DM tended to be younger and had a lower body mass index than their non-Asian counterparts.
- CHF was less frequent in Asians than non-Asians with DM.
- Coronary artery disease, hypertension, hypercholesterolaemia, vascular disease, and CKD were more common in patients with DM (both Asian/non-Asian).
- Use of anticoagulants was higher in patients with DM (Asian/non-Asian) than patients without DM, and lower in Asians than non-Asians.

Analysing data from 774 Asian patients with AF and another comorbidity CKD compared with non-Asian patients, the key findings were that³:

- Moderate-to-severe CKD was less prevalent among Asians (8.2%) than non-Asians (12.1%).
- Asians with moderate-to-severe CKD were younger than non-Asian counterparts, and had lower prevalence of vascular disease.
- Use of anticoagulants with or without antiplatelets was lower in Asians versus non-Asians, and was slightly higher in the moderate-to-severe CKD group in both Asia and other regions.

Other data from the GARFIELD-AF registry presented during a Teatime Seminar demonstrated that Asian patients have increased incidence of stroke and bleeding, and that those with comorbidities have more mortality compared to non-Asian populations.

The Seminar also included a look at the economic burden of AF in Asia, using China and Japan as examples, compared with Europe. The cost per patient per year was calculated from a combination of costs for AF-related visits to doctors, admissions, procedures and drugs (not including concomitant conditions). In Japan the unit cost was significantly higher at ¥521,269 compared to ¥14,225 in China – and both were higher than the cost in Europe which was only ¥1,970. The vast majority of the costs were attributable to inpatient costs (70.5% in Japan, 63.6% in China).

Speaking after the Seminar, co-chair Professor Shinya Goto of Tokai University School of Medicine, Tokyo, commented: “GARFIELD-AF offers a unique opportunity to obtain a comprehensive and contemporary description of the spectrum of patients with AF and their management globally, and in regions including Asia, as they evolve over time. By enhancing the breadth and depth of understanding of stroke prevention in AF, we can ultimately inform strategies to improve patient outcomes, safety and utilisation of healthcare resources.”

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To view the GARFIELD-AF data presented at the APHRS congress 2017, please log on to our website at: www.garfieldregistry.org/.

About the GARFIELD-AF registry

GARFIELD-AF is the largest ongoing prospective registry of patients with AF. 2016 marked the end of the enrolment phase for GARFIELD-AF, with 57,262 patients enrolled of which 52,000 are prospective. The real-world insights that continue to be gathered from the GARFIELD-AF registry are being converted into real-world evidence that helps inform and identify areas where the medical community can continue to improve patient outcomes.

GARFIELD-AF is a pioneering, independent academic research initiative led by an international steering committee under the auspices of the TRI, London, UK.

It is an international, non-interventional study of stroke prevention in patients with newly diagnosed AF. Patients were enrolled from over 1,000 centres in 35 countries worldwide, including from the Americas, Europe, Africa and Asia-Pacific.

Contemporary understanding of AF is based on data gathered in controlled clinical trials. Whilst essential for evaluating the efficacy and safety of new treatments, these trials are not representative of everyday clinical practice and, hence, uncertainty persists about the real-life burden and management of this disease. GARFIELD-AF seeks to provide insights into the impact of anticoagulant therapy on thromboembolic and bleeding complications seen in this patient population. It will provide a better understanding of the potential opportunities for improving care and clinical outcomes amongst a representative and diverse group of patients and across distinctive populations. This should help physicians and healthcare systems to appropriately adopt innovation to ensure the best outcomes for patients and populations.

The registry started in December 2009. Four key design features of the GARFIELD-AF protocol ensure a comprehensive and representative description of AF; these are:

- Five sequential cohorts of prospective, newly diagnosed patients, facilitating comparisons of discrete time periods and describing the evolution of treatments and outcomes;
- Investigator sites that are selected randomly within carefully assigned national AF care setting distributions, ensuring that the enrolled patient population is representative;
- Enrolment of consecutive eligible patients regardless of therapy to eliminate potential selection bias;
- Follow-up data captured for a minimum of 2 and up to 8 years after diagnosis, to create a comprehensive database of treatment decisions and outcomes in everyday clinical practice.

Included patients must have been diagnosed with non-valvular AF within the previous 6 weeks and have at least one risk factor for stroke; as such, they are potential candidates for anticoagulant therapy to prevent blood clots leading to stroke. It is left to the investigator to identify a patient's stroke risk factor(s), which need not be restricted to those included in established risk scores. Patients are included whether or not they receive anticoagulant therapy, so that the merit of current and future treatment strategies can be properly understood in relation to patients' individual risk profiles.

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

For more information, visit our website: www.garfieldregistry.org

The burden of AF

Up to 2% of the global population has AF,⁴ including around 8.8 million people in Europe⁵ and 5–6.1 million in the United States.⁶ It is estimated that its prevalence will at least double by 2050 as the global population ages.⁶ AF is associated with a five-fold increase in stroke risk, and one out of five strokes is attributed to this arrhythmia.⁴ Ischaemic strokes related to AF are often fatal, and those patients who survive are left more frequently and more severely disabled and have a greater risk of recurrence than patients with other causes of stroke.⁴ Hence, the risk of mortality from AF-associated stroke is doubled and the cost of care is 50% higher.⁴

AF occurs when parts of the atria emit uncoordinated electrical signals. This causes the chambers to pump too quickly and irregularly, not allowing blood to be pumped out completely.⁷ As a result, blood may pool, clot and lead to thrombosis, which is the number one cardiovascular killer in the world.⁸ If a blood clot leaves the left atrium, it could potentially lodge in an artery in other parts of the body, including the brain. A blood clot in an artery in the brain leads to a stroke; 92% of fatal strokes are caused by thrombosis.⁸ Stroke is a major cause of death and long-term disability worldwide – each year, 6.5 million people die⁹ and 5 million are left permanently disabled.¹⁰ People with AF also are at high risk for heart failure, chronic fatigue and other heart rhythm problems.¹¹

About the TRI

The TRI is dedicated to bringing new solutions to patients for the detection, prevention and treatment of blood clots. The TRI's goal is to advance the science of real-world enquiry so that the value of real-world data is realised and becomes a critical link in the chain of evidence. Our pioneering research programme, across medical disciplines and across the world, continues to provide breakthrough solutions in thrombosis.

For more information, visit: <http://www.tri-london.ac.uk/>.

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1. Jing, Zhi-Cheng et al., Baseline characteristics and treatment patterns in patients with newly diagnosed atrial fibrillation in Asian countries: Insights from GARFIELD-AF, Oral Presentation 7: Pharm-1, Presented at the Asia Pacific Heart Rhythm Society (APHRS), Thursday, September 14, 15:00 to 16:00.
 2. Ayabe, Kengo et al., Risk factor profile and management of patients with diabetes mellitus and newly diagnosed atrial fibrillation in Asia: Results from GARFIELD-AF, Oral Presentation 7: Pharm-1, Presented at the Asia Pacific Heart Rhythm Society (APHRS), Thursday, September 14, 15:00 to 16:00.

3. Goto, Shinichi et al., Risk factor profile and management of patients with chronic kidney disease and newly diagnosed atrial fibrillation in Asia: Results from GARFIELD-AF, Oral Presentation 21: Pharm-2, Presented at the Asia Pacific Heart Rhythm Society (APHRS), Friday, September 15, 08:00 to 09:30.
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