Journal of Cardiology 64 (2014) 211–217

Contents lists available at ScienceDirect

Journal of Cardiology

journal homepage: www.elsevier.com/locate/jjcc

Original article

Complexity of atrial fibrillation patients and management in Chinese ethnicity in routine daily practice: Insights from the RealiseAF Taiwanese cohort

Kang-Ling Wang (MD)[a,b,c], Cheng-Hsueh Wu (MD)[b,c], Chin-Chou Huang (MD)[b,c], Tao-Cheng Wu (MD, PhD)[b,c], Lisa Naditch-Brûlé (MD)[d], Philippe Gabriel Steg (MD)[e,f], Shing-Jong Lin (MD, PhD)[b,c], Chern-En Chiang (MD, PhD, FACC, FESC)[a,b,c,*]

[a] General Clinical Research Center, Taipei Veterans General Hospital, Taipei, Taiwan
[b] Division of Cardiology, Taipei Veterans General Hospital, Taipei, Taiwan
[c] School of Medicine, National Yang-Ming University, Taipei, Taiwan
[d] Sanofi, Paris, France
[e] INSERM U-698, Paris, France
[f] Assistance Publique – Hôpitaux de Paris, Centre Hospitalier Bichat-Claude Bernard, Paris, France

ARTICLE INFO

Article history:
Received 11 September 2013
Received in revised form
26 December 2013
Accepted 23 January 2014
Available online 3 March 2014

Keywords:
Atrial fibrillation
Epidemiology
Antiarrhythmic drugs
Quality of life

ABSTRACT

Background: Most atrial fibrillation (AF) epidemiology described Western populations; there is a paucity of data from Chinese ethnicity. This study presented differences in patient characteristics and management strategies, and assessed the quality of life (QoL) and AF control in Taiwanese patients from RealiseAF.
Methods: RealiseAF enrolled 10,523 patients internationally, in which Taiwanese cohort accounts for 7.1%. Physicians were randomly selected from a global list. Patient characteristics, management and therapeutic strategies of AF, QoL measured by the EQ-5D questionnaire, and the control of AF (in sinus rhythm, or AF with a ventricular rate ≤80 beats per minute) evaluated by electrocardiography were assessed.
Results: Taiwanese patients were mostly outpatients (93.9%), older (70.2 ± 11.8 years), accompanied by more comorbidities, more frequently (51.7%) in permanent AF, and symptomatic (European Heart Rhythm Association score ≥II: 81.5%) compared with the non-Taiwanese cohort. A rhythm-control strategy was less preferable to rate-control than in non-Taiwanese cohort as well as the use of class I and III antiarrhythmic drugs (AADs); 85.2% of Taiwanese patients received AADs, among which beta-blockers were the most common (46.9%). QoL was compromised (Visual Analogue Scale: 70.3 ± 14.4; single index utility score: 0.81 ± 0.25) and only 48.6% of the Taiwanese patients had AF controlled.
Conclusions: AF complexity in the Taiwanese cohort was similar to or even greater than that in the non-Taiwanese cohort. The Taiwanese patients were highly symptomatic; QoL was impaired despite the widespread use of medications and AF control was unsatisfactory. There is an apparent unmet need in AF treatment in Chinese ethnicity.

Introduction

Atrial fibrillation (AF) is associated with increased cardiovascular events and mortality [1,2]. The management of AF involves rhythm- and/or rate-control strategies in addition to thromboembolism prevention. However, neither of the strategies is superior with regard to major cardiovascular endpoints or quality of life (QoL) [3–6]. Studies of antiarrhythmic drugs (AADs) focus on the effectiveness of restoration and maintenance of sinus rhythm, and the reduction of cardiovascular events [7,8]. In contrast, symptoms and QoL considerably impaired by AF are seldom prospectively

Abbreviations: AAD, antiarrhythmic drug; AF, atrial fibrillation; EHRA, European Heart Rhythm Association; EHS-AF, Euro heart survey on atrial fibrillation; EORP-AF, EuroObservational research programme atrial fibrillation; PREFER in AF, prevention of thromboembolic events – European registry in atrial fibrillation; QoL, quality of life; RealiseAF, real-life global survey evaluating patients with atrial fibrillation; RecordAF, registry on cardiac rhythm disorders; RecordAF-AP, registry on cardiac rhythm disorders – Asia Pacific.

* Corresponding author at: General Clinical Research Center, Taipei Veterans General Hospital, No. 201, Sec. 2, Shih-Pai Rd., Taipei 112, Taiwan.
Tel.: +886 2 28757602; fax: +886 2 28745422.
E-mail address: cechiang@vghtpe.gov.tw (C.-E. Chiang).

http://dx.doi.org/10.1016/j.jjcc.2014.01.010
0914-5087/

evaluated [5,6,9]. There is limited information regarding the impact of AF on QoL in the Asian population [10,11]. The real-life global survey evaluating patients with atrial fibrillation (RealiseAF) is the largest international survey on the management of all types of AF [12]. RealiseAF showed that AF was accompanied by multiple cardiovascular risk factors and comorbidities, and control of AF was unsatisfactory, particularly in patients with a higher burden of symptoms and compromised QoL [12,13]. Nevertheless, the epidemiology and management of AF vary across continents [14,15]. Differences in both patient and AF characteristics and in the treatment preferences across registries are attributed to the distribution of patient enrollment [13,16–18]. Since the majority of Taiwanese patients in RealiseAF were recruited during clinic visits, we examined the differences in patient characteristics, clinical presentation of AF, and treatment between the Taiwanese cohort, the third largest population enrolled in RealiseAF, and the non-Taiwanese cohort to assess contemporary AF epidemiology in clinics in addition to QoL burden in patients of Chinese ethnicity.

Methods

RealiseAF is a large-scale, international, contemporary survey of >10,000 patients with all types of AF enrolled in 26 countries from October 2009 to May 2010. The study was conducted with the approval of the appropriate boards in each country. The design and main results have been described previously elsewhere [12,13]. The objective of RealiseAF was to provide contemporary information on patient characteristics and comorbidities, types and management of AF, AF control and its impact on QoL.

Design and overview of RealiseAF

Regardless of the treatment, patients with a history of AF documented by electrocardiography or Holter monitoring in the previous 12 months or documented current AF, who provided written informed consent were eligible. Physicians were randomly selected from the global list of cardiologists and internists, in a ratio predetermined to reflect the practice in each country. Study physicians were asked to recruit 10–30 consecutive patients within 6 weeks.

The type of AF was judged by the study physicians. Lone AF was defined as AF patients aged <60 years without a history of either hypertension, heart failure, coronary artery disease, valvular heart disease, chronic pulmonary disease, or venous thromboembolism. AF-related symptoms on the day of visit were assessed according to the European Heart Rhythm Association (EHRA) AF cardiac symptom classification [19]. The management strategy as either rhythm-control or rate-control before and at the day of visit was determined by the study physicians instead of the use of AADs. QoL on the visit day was measured by using the EQ-5D instrument. Adequate AF control was determined by resting electrocardiography on the visit day, and was defined as being either in sinus rhythm or in AF with a resting ventricular rate ≤80 beats per minute (bpm). As RealiseAF was an observational study, electrocardiography used for AF control assessment was only performed in 91.8% of the study population on the visit day.

Objectives

The objective of this study was to describe the contemporary AF epidemiology in patients of Chinese ethnicity. In RealiseAF, a larger proportion of Taiwanese patients were recruited on an outpatient basis compared with the non-Taiwanese cohort. This study compared the differences in characteristics and management of AF between two different enrollment patterns.

Furthermore, in contrast to the global study physicians, of whom 83.1% were cardiologists, all 34 study physicians from 22 sites in Taiwan who enrolled ≥1 patient were cardiologists (aged 43.5 ± 7.7 years, electrophysiologists: 29.4%), who were also the actual treating physicians of their enrollees. A majority (85.3%) of Taiwanese physicians reported that they see <5 newly diagnosed AF patients per week, and 47.1% see ≥10 patients per week with either a history of AF or current AF. We assessed AF control and QoL in the Taiwanese cohort, which was entirely treated by cardiologists.

Statistical analysis

Descriptive information is presented as mean ± standard deviation or as the percentage of the population with non-missing data. The published summary statistics of the global RealiseAF population was used for statistical comparisons [12]. For comparisons between the Taiwanese and non-Taiwanese patients, the chi-square test was used. Analyses were performed using the Statistical Analysis Systems statistical software, version 9.1 (SAS Institute, Cary, NC).

Results

Demographics, risk factors, comorbidities and concomitant conditions

Of the 10,523 patients enrolled in the global RealiseAF survey, 16.2% were from Asia (Azerbaijan, India, Taiwan and Turkey), including 742 patients (7.1%) from Taiwan. The comparisons of demographics, cardiovascular risk factors and concomitant conditions of the Taiwanese and non-Taiwanese cohorts are listed in Table 1. Hypertension was the most common risk factor and heart failure was the most common comorbidity. The distributions in cardiovascular risk factors and cardiovascular comorbidities were significantly different between the groups. In general, the Taiwanese patients were older and had a higher burden of both cardiovascular disease and non-cardiovascular comorbidities in spite of their higher outpatient recruitment rate (93.9% vs. 68.2%). In addition, a history of diabetes, cerebrovascular disease, valvular heart disease and sick sinus syndrome was more frequent in the Taiwanese cohort, while the non-Taiwanese cohort had a higher prevalence of dyslipidemia, obesity, heart failure and hypothyroidism and was less likely to have pulmonary, hepatic and renal comorbidities. Symptomatic heart failure was similarly distributed in both cohorts.

Characteristics of AF and QoL impairment

The distributions of AF classification, the duration since a diagnosis of AF, symptoms and management strategies were different between the Taiwanese and non-Taiwanese cohorts (Table 2). Non-permanent AF and lone AF were less frequent in the Taiwanese cohort, despite the duration of AF being shorter in Taiwanese cohort. More than half of the Taiwanese cohort (55.3%) had symptoms in the past 7 days before the visit, whereas a greater proportion of the non-Taiwanese cohort were symptomatic (61.1%), with particularly palpitation, dyspnea, fatigue, and lightheadedness/dizziness. On the visit day, patients from the Taiwanese cohort were more frequently symptomatic (EHRA score ≥II: 81.5%) compared with the non-Taiwanese cohort (EHRA score ≥II: 73.3%).

AF was associated with modestly impaired QoL in the Taiwanese patients, measured by EQ-5D Visual Analogue Scale (70.3 ± 14.4) and the single index utility score (0.81 ± 0.25). The patients had some level of impairment in all five dimensions of well-being (Fig. 1).