PROFILE OF ATRIAL FIBRILATION IN PROF. R.D. KANDOU HOSPITAL MANADO FROM SEPTEMBER 2012 – FEBRUARY 2013

Michael S. Kawilarang
Iman Y. Suhartono, Elfan Moeljono, Loretta C. Wangko
Agnes L. Panda, Reginald L. Lefrandt

Department of Cardiology and Vascular Medicine Faculty of Medicine
University of Sam Ratulangi Manado
Email: m1keandv1na@yahoo.com

Abstract: Atrial fibrillation (AF) is the most common sustained cardiac arrhythmia encountered in clinical practice characterized by disorganized atrial activation and uncoordinated contraction of the atria and ventricle. Although there are many reports regarding the profile of atrial fibrillation (AF) in Indonesia, none have been published in North Sulawesi. This study aimed to provide epidemiological data regarding atrial fibrillation profile in Manado. We reviewed medical records of outpatients diagnosed with AF in the Department of Cardiology and Vascular Medicine, Prof. Dr. R.D. Kandou Hospital, Manado, from September 2012-February 2013. Relevant variables such as gender, age, co-morbidities, echocardiography, and medical therapy were documented. The results showed that a total of 84 patients with AF were enrolled in the study. There were 42 males (50%) and 42 females (50%) with age ranges from 21 to 84 years (mean 60.74 years), of these 53 patients (63%) were ≥60 years and 31 patients (37%) <60 years. From...
the total 84 patients, 59 patients underwent echocardiography examinations: 39 patients (66.1%) had ejection fraction (EF) ≥55%; and 20 patients (33.9%) had EF <55% (mean 55.8%). Left atrial enlargement was found in 33 patients (55.9%) and thrombus was found in 13 patients (22%). Besides suffering from AF, 35 patients (41.7%) had hypertension, 40 (40.76%) had congestive heart failure, 20 (23.8%) had coronary artery disease, 21 (25%) had valvular heart diseases, 6 (7%) had pulmonary diseases, 5 (6%) had hyperthyroidism, and 1 (1.2%) had no comorbid. Seventy patients (83.3%) were treated with bisoprolol, 2 (2.4%) with digoxin, 3 (3.5%) with amiodarone, 7 (8.4%) with bisoprolol and digoxin, and 2 (2.4%) with bisoprolol and amiodarone. Oral anticoagulant was used in 28 patients (33.3%), and aspirin in 40 patients (47.6%). Strokes were found in four patients (4.8%); one died due to stroke. Conclusion: The prevalence of AF was higher in the elderly. Congestive heart failure and hypertension were the most common comorbid found, thus, greater awareness is needed. Bisoprolol was used as the highest proportion of treatment in AF patients, and the complication and mortality rates were low. Keywords: atrial fibrillation, comorbid, therapy.

Atrial fibrillation (AF) is the most common sustained cardiac arrhythmia encountered in clinical practice which requires treatment. AF is characterized by disorganized atrial activation and uncoordinated contraction of the atria and ventricles. ECG demonstrates rapid fibrillatory waves with changes in morphology and ventricular rhythm that is irregularly irregular.1,2 This is clinically identified as irregularly irregular pulse with rates varying from normal to 200 beats per minute and a pulse deficit of >10 beats. The occurrence of AF should be suspected when the ECG shows ventricular complexities with an irregular and no obvious P wave. AF has been classified by the American Heart Association, the American College of Cardiology, and the European Society of Cardiology into: first detected episode, recurrent (two or more episodes), paroxysmal (terminates within 7 days), persistent (persists for more than 7 days), and permanent (sustained for more than one year).1,3,4

AF is common in patients with structural heart diseases. While in developing countries rheumatic valvular disease remains a major etiological factor for AF, the spectrum in Western populations has shifted to hypertension, atherosclerotic heart disease, congestive heart failure, valvular heart disease (mainly mitral stenosis), and diabetes mellitus as the most common risk factors for the development and sustenance of AF.5 Based on the sub-analysis of Framingham data, Lloyd Jones et al.6 highlighted the fact that AF posed a major public health burden as the lifetime risk of developing AF from age 40 onwards is approximately one in four for both males and females, and one in six even in the absence of congestive heart failure or myocardial infarction.6 Based solely on the aging of the population, the prevalence of AF in the United States had been projected to increase from ±2 to 5 million in 2000 to ±6 to 12 million in 2050, with estimates reaching almost 16 million if the increase in age-adjusted AF incidence continues.7,8

Atrial fibrillation, the commonest clinical arrhythmia increasing in incidence and prevalence, is associated with substantial morbidity and mortality. Cerebrovascular complications are further important causes of functional limitation of such patients.9,10 This study was aimed to provide the epidemiological data regarding profile of atrial fibrillation since there have been none published in North Sulawesi.

METHODS

This observational based study was carried out in the Department of Cardiology and Vascular Medicine, Prof. Dr. R.D. Kandou Hospital, Manado from September 2012 - February 2013. We reviewed medical records of outpatients diagnosed with AF (having clinical and electrocardiographic evidence of AF).

Relevant variables such as gender, age,
clinical presentation, echocardiography, and medical therapy were documented for further evaluation. Results were presented using percentages.

RESULTS

A total of 84 patients with AF were included in the study. There were 42 males (50%) and 42 females (50%) with age ranges from 21 to 84 years (mean 60.74 years). Of the 84 patients, 53 patients ≥60 years (63%) and 31 patients <60 years (37%) (Table 1).

From a total of 84 patients, 59 patients underwent echocardiography examinations. Of these, 39 patients had ejection fraction (EF) ≥55% (66.1%) and 20 patients had EF <55% (33.9%) with a mean of 55.8%. Left atrial enlargement was found in 33 patients (55.9%) and thrombus was found in 13 patients (22%) (Table 2).

Seventy patients were treated with bisoprolol (83.3%), 2 patients with digoxin (2.4%), 3 patients with amiodarone (3.5%), 7 patients with bisoprolol and digoxin (8.4%), and 2 patients with bisoprolol and amiodarone (24%) (Tabel 4).

Oral anticoagulants (dabigatran or heparin) were used in 28 patients (33.3%), and aspirin in 40 patients (47.6%). In complications, stroke were found in 4 patients (4.8%), in which 1 of them died because of the complication (Table 5).

DISCUSSION

A proportion of male and female patients...
in this study was the same (50% vs 50%). Similar observations were made by other studies. The age distribution of patients in this study showed a mean age of 60.74. Most of the patients belonged to the group ≥60 years which was similar with other studies showing a higher prevalence of AF in the elderly.

In Western populations the most common risk factors for the development of AF have shifted from rheumatic valvular disease to hypertension, coronary heart disease, and congestive heart failure. In the Framingham Study, heart failure was the most powerful predictor of AF, with more than a five-fold relative risk. Our study found that congestive heart failure and hypertension were the most common clinical presentations in AF patients.

Data from the ALPHA study registry showed that AF was more prevalent among patients with preserved ejection fraction than those with reduced ejection fraction. In our study, 39 patients (66.1%) had preserved ejection fraction, and 20 patients (33.9%) had reduced ejection fraction.

In the RACE (RAte Control versus Electrical cardioversion for persistent AF) study, the primary end point was a composite of death from cardiovascular causes, heart failure, and thrombo-embolic complications. With a mean follow-up of 2.3 years, the primary end point occurred in 44 of the 256 rate control patients (17.2%), and 60 of the 266 rhythm control patients (22.6%). In our study, bisoprolol (rate control) had the highest proportion of treatment in AF patients.

**CONCLUSION**

The prevalence of AF was higher in the elderly, and there was no different in prevalence between both genders.

Congestive heart failure and hypertension were the most common clinical presentation, found in our study, thus, greater awareness is needed.

Bisoprolol (rate control) had the highest proportion of treatment in AF patients, and the complications and mortality rate was low.

Presented as a Free Paper - Oral Presentation at the 22nd Annual Scientific Meeting of Indonesian Heart Association (Asmiha), Jakarta, Indonesia, April 5-7, 2013.

**REFERENCES**


