

Original Article

TO STUDY THE PREVALENCE AND CLINICAL PROFILE OF CHRONIC ATRIAL FIBRILLATION IN HOSPITALIZED PATIENTS

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Abstract :

Objective : To determine the prevalence of chronic atrial fibrillation (AF) in a tertiary care center and to identify the clinical profile of chronic AF in hospitalized patients.

Methods : All patients admitted to Mamata General Hospital in medicine/cardiology wards with chronic AF (persistent and permanent) during the period January 2012 to December 2012 were included into the study. The principal exclusion criteria were new onset AF and acute AF.

Results : During the study period, 49 patients were admitted with chronic AF with an average of 45.44 years. A slight female dominance was seen with male: female ratio of 1:1.2. Half of the patients (51%) were below the age 50 years. The elderly age group comprised of only 16.3% of cases. The commonest presenting complaint was dyspnea followed by palpitation. Rheumatic valvular heart disease was seen more commonly in people below the age of 50 years whereas hypertension and ischemic heart disease after 50 years. Heart failure was the commonest condition associated with the chronic AF and was the cause of hospitalization in almost fifty percent of cases

Conclusions : Chronic AF is still a cause of concern in India in people below the age of 50 years due to high prevalence of rheumatic fever inspite of advances in the medical field.

Keywords : Chronic Atrial Fibrillation, RHD

Introduction :

Atrial fibrillation is the most common clinically significant cardiac arrhythmia¹. Cardiac co-morbidities that are associated with AF include hypertension, coronary artery disease (CAD), valvular heart disease (VHD), congestive heart failure (CHF), cardiomyopathy, pericarditis, congenital heart disease (CHD) and cardiac surgery²⁻⁹. Noncardiac co morbidities that are associated with AF include acute pulmonary embolism, chronic obstructive pulmonary disease (COPD), obstructive sleep apnea, hyperthyroidism and obesity¹⁰⁻¹⁴.

Atrial fibrillation (AF) is a major risk factor for ischemic stroke, congestive heart failure and mortality.^{1,2,3} The

prevalence of AF is influenced by age, gender,^{4,5,6} cardiovascular disease (CVD) such as valvular heart disease, and CV risk factors such as hypertension, diabetes,⁷ obesity,⁸ and insulin resistance.⁹ It was calculated that currently more than 3 million inhabitants of the USA suffer from atrial fibrillation and that this will increase to more than 7 million by 2050.¹⁵ Comparable figures for India are not available.

Knowing the prevalence of atrial fibrillation and documentation of medical management are important in the provision of primary care. This study sought to determine the prevalence of chronic atrial fibrillation in a tertiary care center and to identify the clinical profile of chronic AF in hospitalized patients.

Methods and Material :

All patients admitted to Mamata General Hospital in medicine/cardiology wards with atrial fibrillation during

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the period January 2012 to December 2012 were the potential subjects. The principal inclusion criteria were a clinical diagnosis of chronic atrial fibrillation (persistent and permanent). The principal exclusion criteria were new onset AF and acute AF. The baseline data on cardiovascular diseases, respiratory diseases and other pertinent aspects of the medical history obtained by means of questionnaire.

Diagnosis of AF: AF was diagnosed based on the routine 12-lead electrocardiogram (ECG) records during the hospitalization.

Patients with documented AF were classified into two subgroups based on their first ECG recorded on arrival in either Emergency Department or Coronary Care Unit. An ongoing AF group included patients who had either chronic AF or developed AF before admission and a new-onset AF group consisted of patients who developed AF during hospitalization.

The presence of atrial fibrillation was based on documentation in the continuous patient profile, the clinic notes, consultant letters, emergency department or hospital discharge summaries, electrocardiograms, Holter monitor reports, echocardiograms, or stress test reports.

Chronic Atrial Fibrillation is defined as longer than 7 days for this study.

- I Persistent AF - Episodes of AF persisting more than 7 days and require either pharmacologic or electrical intervention to terminate
- I Permanent AF - Continuous AF, that has failed cardioversion, or where cardioversion has never been attempted

Results :

A total of 87 potential patients who were hospitalized in the medicine department/cardiology department of Mamata General Hospital were screened for the study. Of these, 49 were found to be eligible. The main reason for exclusion was new onset of AF and AF which lasted for less than 7 days.

Age and Sex Distribution

In this study, the patients were aged 18 years to 85 years with an average of 45.44 years. The maximum number of cases were found between 40 to 60 years (n=26, 53%) with an average of 48 years. Half of the patients (n=25, 51%) were below the age of 50 years. Elderly age group comprised of less than 20 percent of cases (i.e.16.3%) (Table. 1)

In our study, 44.9% were male patients and 55.1% were females. This reflects the female dominance of the disease and current epidemiology of chronic AF in this part of Andhra Pradesh. Highest number of cases was seen in 30-60 years age group in case of females and in 40-60 years age group in case of males. The male and female ratio was 1:1.2

Atrial fibrillation patients with rheumatic etiology commonly presented below 50 years but HTN and IHD presented after 50 years.

Presenting Features

The commonest presenting complaint in our study was dyspnea followed by palpitation (Table. 2). The duration of symptoms ranged from 15 days to 20 years. Shorter duration was noticed in cases of Ischemic Heart Disease and longer duration in Rheumatic Heart disease.

Associated conditions with AF

CCF was the commonest condition associated with the chronic AF and was the cause of hospitalization in almost fifty per cent of cases (Table. 3).

Etiology

In this study rheumatic heart disease (75.51%) is the most common cause followed by ischemic heart disease (10.20%) and hypertension (6.12%) (Table. 4)

Table no 1: Age and sex distribution of atrial fibrillation

Age Group	Male	Female	Total	Percentage
10-20	1	1	2	4.08
20-30	3	2	5	10.2
30-40	2	6	8	16.32
40-50	4	6	10	20.4
50-60	9	7	16	32.65
60-70	1	3	4	8.16
70-80	2	1	3	6.12
>80	-	1	1	2.04

Table No 2: Clinical presenting features of atrial fibrillation

Complaint	No. of patients	Percentage
Dyspnoea	41	83.67
Palpitations	26	53.06
Pedal edema	13	26.53
Chest pain	15	30.61
Haemoptysis	1	2.04
Paralysis	6	12.24

Table No 3: Associated conditions with atrial fibrillation

Associated condition	No. of patients	Percentage
1. CCF	24	40
2. Angina	8	13.33
3. Embolic stroke	8	13.33
4. Haemoptysis	1	1.6
5. Infective endocarditis	1	1.6

Table No 4: Etiology of atrial fibrillation

S. No.	Complaint	No. of patients	Percentage
1	RHD	37	75.51
2	IHD	5	10.20
3	HTN	3	6.12
4	DCM	2	4.08
5	CHD	1	2.04
6	COPD	1	2.04

Discussion :

In the present study, AF was seen more common in the 20-50 age group. This is in contrast to that reported by other authors. According to Lip Gy, Golding DJ majority of people fibrillated after the age of 50 years.¹⁶ Epidemiological studies have shown that AF is fairly uncommon in people aged under 50 years but is found in 0.5% of people of aged 50-59, increasing to 8.8% at age 80-89.¹⁷ PT Onundarson et al showed that the prevalence of chronic AF is low in randomly selected population 32-64 years of age.¹⁸ These differences are because of the etiological cause of chronic AF. Nowadays ischemic heart disease is the most prevalent cardiac disease related with the development of AF in the western countries. In the present study the rheumatic heart disease is still the common etiology.

In the present study the sex ratio of female to male is 1.22:1, AF with valvular disease being more frequent

among women than men. According to Lok NS, Lan CP, the ratio is 1.8:1. In these studies the female predominance is there.¹⁹

In the present study dyspnea (83.67%), palpitations (53.06%) and chest pain (30.61%) are the most common presentations. In Lok NS, Lau CP study dyspnea and palpitation were the most common symptoms.¹⁹ Gregory YH Lip described dyspnea (52%), chest pain (34%) and palpitation (24%) as the presenting symptoms in emergency admissions in AF. We also noticed that the symptoms are of longer duration in rheumatic etiology and are of shorter duration in other causes.

In our study congestive heart failure was the most common associated condition, nearly in 50% cases. CHF was a powerful independent predictor of the occurrence of AF in the Framingham study, in both symptomatic and asymptomatic LV dysfunction. AF is diagnosed in 10% to 35% of patients with CHF during the course of the disease and is related to the clinical severity of its symptoms.²⁰

In the present study stroke is seen in 13.33% of cases only. In a study from Trieste, Italy, 34% of patients with chronic AF had a significantly higher rate of thrombo-embolism, suggesting that in addition to age, chronicity may be a risk factor for stroke in the lone AF population.²¹

Conclusion:

In summary it was concluded that, the prevalence of chronic AF is still more common below the age of 50 years in this part of our country despite of increase in prevalence of IHD and increase in life expectancy of average Indian citizen and this is mostly due to high prevalence of rheumatic heart disease in India. CHF is the most common associated condition with chronic AF.

Acknowledgments:

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