VOLUME - 12, ISSUE - 04, APRIL - 2023 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper

General Medicine

CLINICO-ETIOLOGICAL PROFILE OF PATIENTS WITH NEWLY DETECTED ATRIAL FIBRILLATION : A RECORD BASED STUDY IN A TERTIARY CARE HOSPITAL IN MANDYA

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ABSTRACT Atrial fibrillation is the most common sustained arrythmia charecterised by disorganised rapid and irregular atrial activation and with irregular ventricular rate. A record based retrospective study was conducted at a tertiary care hospital to know the clinico-etiological profile of atrial fibrillation . Datas of 130 patients admitted in the hospital in the past 6 months were obtained and analysed . It was observed that the most common presenting complaint was breathlessness seen among 70.76% of patients and palpitation was seen in 60 % of patients followed by bilateral lower limb swelling seen among 36.92% patients. The most common etiology in this study was rheumatic heart disease (56.15%) followed by ischemic heart disease (20%) and hypertension (10%). This article has provided many insights on potential risk factors for the occurrence of atrial fibrillation. This would help in early diagnosis and prompt treatment of AF and the possible risk factors.

KEYWORDS : atrial fibrillation, rheumatic heart disease , hypertension .

INTRODUCTION AND NEED OF STUDY

Atrial fibrillation (A) is characterised by disorganized, rapid, and irregular atrial activation with loss of atrial contraction and with an irregular ventricular rate that is determined by atrioventricular (AV) nodal conduction. AF is the most common sustained arrythmia and is a major public health problem.[1] ECG demonstrates rapid fibrillatory waves with changing morphology and ventricular rhythm that is irregularly irregular. This is clinically defined by irregularly irregular pulse with rates varying upto 200 bpm. Atrial fibrillation should be suspected when electrocardiogram is showing irregularly irregular ventricular complexes with no obvious P wave . The incidence and prevalence of AF are increasing globally. Based on data from the FHS (Framingham Heart Study), the prevalence of AF increased 3-fold over the last 50 years[2].The Global Burden of Disease project estimated a worldwide prevalence of AF around 46.3 million individuals in 2016.[3] The prevalence of AF increases with age and more than 95% of AF patients are of >60 years of age. AF is slightly more common in women in men. Atrial fibrillation has been classified by American Heart Association/ American college of cardiology/European Society of cardiology into first detected episode, recurrent (two or more episode), paroxysmal(terminates within 7 days), persistent(persist for more than 7 days) and permanent(sustained for more than 1 year or has failed cardio version). Echocardiography has emerged as an essential technique in the assessment and therapy of patients with cardiac rhythm abnormalities due to technological developments in 2D-Doppler ultrasonography. This study is being conducted to study the etiological factors and clinical presentation of patients presenting with atrial fibrillation.

AIMS AND OBJECTIVES

1. to describe the various clinical presentations of atrial fibrillation of patients getting admitted in MIMS, Mandya
2. to assess the etiological factors in patients with atrial fibrillation

METHODOLOGY

This is a record based retrospective cross sectional study conducted by collecting the records of the patients with newly detected atrial fibrillation with clinical features and electrocardiographic features suggestive of the same aged >15 years. The records will be studied for the possible etiological factors and the clinical features at the presentation will be noted. All patient's 2D ECHO will be noted to find out the coronary heart diseases, if structural heart disease like congenital heart diseases, hypertensive heart disease, and dilated cardiomyopathies, hypertrophic cardiomyopathy will be noted. The records of 130 patients were obtained and analysed.

RESULTS

Table 1: Age Distribution

Age in years	No of patients	percentage
<20 years	3	2.3%
21-30	13	10%
31-40	23	17.69%
41-50	24	18.46%
51-60	44	33.84%
61-70	13	10%
71-80	10	17.69%

In our study, it was observed that atrial fibrillation was most commonly found in 51-60 years (33.84%) followed by 41-50 years (18.46%). According to the Framhingam study atrial fibrillation is maximally found in the age group of 45-64 years of age .

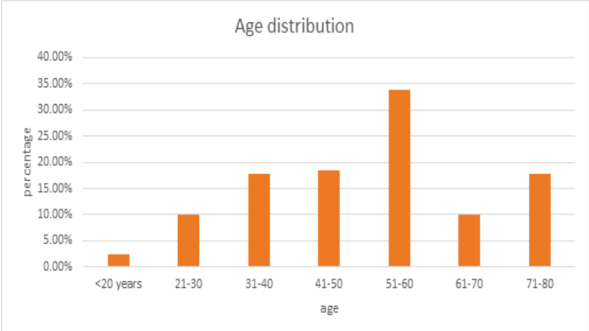

Figure 1 : Age Distribution

Table 2 : Sex Distribution

Sex distribution	No of patients	Percentage
Male	53	40.70
Female	77	59.30 %

The study group showed female predominance between two sexes , among 130 patients , 53 patients (40.7%) were females and 59 % were males

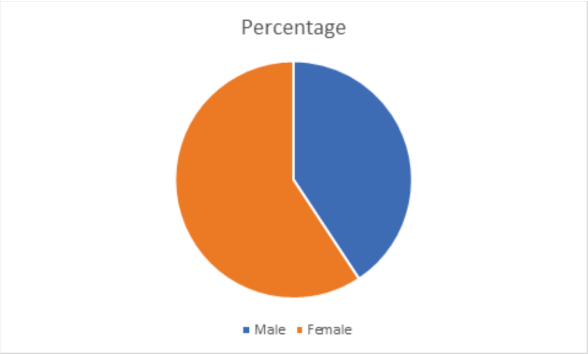

Table 3: Distribution Of Presenting Signs Symptoms And Past History Of Atrial Fibrillation

Table 3a : Symptoms

Symptoms	No of patients	percentage
Palpitation	78	60%
Breathlessness	92	70.76%
Cough	35	26.92%
Chest pain	30	23.07%
Swelling of legs	48	36.92%
Syncope	4	3.07%
Hemiparesis	8	6.15%
Unconscious	2	1.5%
Altered sensorium	1	0.7%
Seizures	1	0.7%

Table 3b : Signs

Signs	No of patients	Percentage
JVP	76	58.46%
Edema	44	33.84%
Basal crepts	50	38.46%
Hepatomegaly	33	25.38%

In our study among 130 patients, the most common presenting complaint was breathlessness seen among 70.76% of patients and palpitation was seen in 60 % of patients followed by bilateral lower limb swelling seen among 36.92% patients.

The most common sign was raised jugular venous pressure seen among 58.46% of patients followed by bilateral basal crepts seen among 38.46 % of patients.

Table 4 : Aetiology Of Atrial Fibrillation

Aetiology	No of patients	Percentage
RHD	73	56.15%
IHD	26	20%
HTN	13	10%
COPD	8	6.15%
Cardiomyopathy	5	3.84%
Thyrotoxicosis	3	2.3%
Lone AF	2	1.53%

The most common etiology in this study was rheumatic heart disease (56.15%) followed by ischemic heart disease (20%) and hypertension (10%)

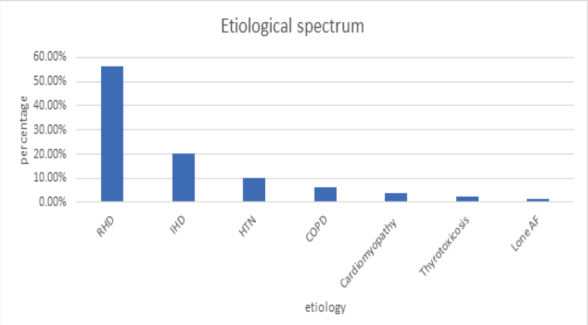

Figure 3 : Etiological Spectrum Of New Onset Atrial Fibrillation

Table 5 : Complications Of Atrial Fibrillation

Complications of AF	No of cases	Percentage
CHF	65	50%
Hypotension	17	13.07%
Acute pulmonary oedema	30	23.07%
Cardiomyopathy	7	5.38%
Stroke	10	7.69%
Death	4	3.07%

Out of 130 patients , most common complication seen was congestive cardiac failure (50%) followed by acute pulmonary edema (23.07%) and hypotension (13.07%)

DISCUSSION

In our study, among the 130 patients studied , it was observed that atrial fibrillation was most commonly found in 51-60 years (33.84%) followed by 41-50 years (18.46%). According to the Rotterdam study[5], the life time risk of developing atrial fibrillation is highest and has been estimated to be 22% to 26%.

In this study of new onset atrial fibrillation among 130 patients, patients with new onset AF. 53 (40.7%) were males and 77(59.3%) were females . Thus there was female preponderance in our study . however in Framhingam heart study[6] , there was predominance of males over females , where the main cause of atrial fibrillation was ischemic heart disease, which is more common in males.

However in our study population the most common cause was rheumatic heart disease (56.15%) and since it is more common in females , there may be female preponderance

In this study , the commonest presenting complaint was breathlessness seen among the study population was breathlessness seen among 92 patients (70.76%) followed by palpitation seen among 78 patients (60%), which is similar to study conducted by Setty MR[7] et al et al who also found that breathlessness as commonest symptom in 76% cases and palpitation was common in 68.6% of cases .

The most common signs in our study were raised Jugular venous pulse seen among 76 patients (58.46%) , edema seen among 44 patients (33.84%) , bilateral basal rales and hepatomegaly was seen among 50 patients (38.46%) and 33 patients (25.38%) respectively.

In our study the commonest cause of atrial fibrillation was Rheumatic heart disease (RHD) seen among 73 patients (56.15%), followed by Ischemic heart disease (IHD) seen among 26 patients (20%) and hypertension seen among 13 patients (10%). this is similar to study done by Mandal et al[8] who found that RHD was the most common cause of atrial fibrillation (30%) followed by IHD and Hypertension seen among 11% and 10 % of study population.

In our study, the commonest complication was congestive cardiac failure seen among 56 patients (43.07%) followed by acute pulmonary oedema was seen in 32 cases (24.61%) and hypotension seen among 20 cases (15.38%). These results are found to be similar to study conducted by Ahmed SA et al[9] .

CONCLUSION

This article has provided many insights on potential risk factors for the occurrence of atrial fibrillation, such as valvular heart disease, hypertension, cardiomyopathy, ischemic heart disease and various presenting features of patients with atrial fibrillation. This would help in early diagnosis and prompt treatment of AF and the possible risk factors.

Limitations

1. Due to the retrospective nature of the study, it has an inferior level of evidence when compared to prospective

studies.

2. Small sample study and a single center trail.

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