

## Clinical and Etiological Profile of Atrial Fibrillation: A Tertiary Care Hospital Study

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### ABSTRACT

**Introduction:** Atrial fibrillation is one of most common arrhythmia that may leads to complications like congestive heart failure, left atrial clots& embolic strokes.

**Materials and Methods:** We did this study at S.M.S. Medical College to know about various Structural heart diseases like Rheumatic heart disease, Hypertension, Dilated cardiomyopathies causing atrial fibrillation & its symptoms like Dyspnoea, palpitations, dizziness etc. Our sample Size of 50 persons from the cardiology OPD & ICU are taken into study. All patients below 18 yrs are excluded from my study.

**Results:** The occurrence of atrial fibrillation was more common above the age of 40 years. AF was more common in females – 58% .The incidence of AF in men increases with age.

**Conclusion:** The commonest complication was noted in AF cases was heart failure – 32%. CVA with embolic stroke was found in 16% of cases. Left atrial clot was demonstrated by

echo cardio graphically in 6%of cases.

**Keywords:** Atrial Fibrillation, Rheumatic Heart Disease, Stroke, Heart Failure.

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### INTRODUCTION

Atrial fibrillation is the most common constant disorder of cardiac rhythm. Patients with chronic atrial fibrillation may require long term treatment with potent anti arrhythmic and anti-coagulant drugs, which may have important pharmacological interactions and adverse effects. In addition, treatment differs importantly for chronic and paroxysmal atrial fibrillation and for atrial fibrillation, atrial flutter, and the other supraventricular tachyarrhythmias. Because the prevalence of the condition increases with age, atrial fibrillation will become increasingly common in the increasingly aging population.

In the Framingham study, hypertension, cardiac failure, and rheumatic heart disease were the commonest precursors of atrial fibrillation.

### AIM OF THE STUDY

- 1) Analysis of Etiological factors of atrial fibrillation.
- 2) Analysis of clinical features of atrial fibrillation.
- 3) Analysis of Complications of atrial fibrillation

### MATERIALS AND METHODS

This study was conducted at S.M.S medical college, Jaipur. This study was conducted during period of Sept 2016 to March 2018, 50 cases with atrial fibrillation were included in this study. 50 consecutive cases were recorded.

### Inclusion Criteria

Both male and female patients were included in this study. Samples were collected from medical OP, medical ward, Medical ICU, Trauma ICU cardiology OP & cardiac ICU.

### Exclusion Criteria

Pediatric patients under 18 years were not included in this study.

### RESULTS

The occurrence of atrial fibrillation was more common above the age of 40 years. AF was more common in females – 58% .The incidence of AF in men increases with age.

In this fifty cases the common etiology of AF was RHD 66% followed by Hypertensive heart disease – 12 %, congenital heart disease (ASD) 4% and Ischemic heart disease carries 8%.

In this 66% of rheumatic heart disease with atrial fibrillation. The mitral valve was involved in almost all the patients. The commonest clinical presentation was MS + MR – 41 %. Followed by isolated MS – 29 %.The combination of mitral and aortic valve lesion – 10%. The congenital heart disease (ASD) with AF was found in 4% of cases. The most common symptomatic presentations were dyspnoea and palpitation followed by chest pain and dizziness. The previous history of rheumatic fever was found in 42 % of cases.

Table 1: Aetiology

Causes	n	%
Rheumatic Heart disease	33	66
Congenital Heart disease	2	4
Ischemic Heart disease	4	8
Hypertensive Heart disease	6	12
Dilated Cardiomyopathy	3	6
Cor-pulmonale	2	4

Table 2: Age Distribution

Age in years	n	%
19-20	01	02
21-30	04	08
31-40	10	20
41-50	15	30
51-60	09	18
61 and above	11	22

Table 3: Gender Distribution

Causes	Male	Female
Rheumatic Heart disease	13	17
Congenital Heart disease	1	3
Ischemic Heart disease	3	1
Hypertensive Heart disease	2	3
Dilated Cardiomyopathy	1	4
Cor-pulmonale	1	1
Total	21	29
Percentage	42%	58%

Table 4: Types of Valvular Lesion in Rheumatic Heart Disease

Type of valvular lesions	n	%
Mitral senosis	09	29
Mitral regurgitation	00	00
Ms + MR	13	41
MS + MR + AS	02	07
MS + MR + AR	04	13
MS + MR + AS + AR	03	10

Table 5: Previous History of Rheumatic Fever

No of cases of RHD	H/O Rheumatic Fever	%
31	13	42 %

Table 6: Symptom Analyses

Symptoms	n	%
Dyspnoea	45	90
Palpitations	43	86
Chest pain	27	54
Fatigue	19	38
Dizziness	20	40

Table 7: Complications

Complication	n	%
Heart failure	16	32
CVA	8	16
LA Clot	3	6

## DISCUSSION

An attempt has been made to study fifty cases of AF regarding aetiology, clinical manifestations, and complications. Atrial fibrillation is an arrhythmia that is characterised by seemingly disorganised and depolarization without effective atrial contraction. During atrial fibrillation electrical activity of atrium can be detected on ECG as small irregular baseline undulation of variable amplitude and morphology called 'f' waves, at a rate of 350 to 600 beats/min.<sup>1</sup>

## CLASSIFICATION OF ATRIAL FIBRILLATION

- 1. Paroxysmal:** Intermittent self-terminating episodes<sup>2</sup> Duration less than 7 days with spontaneous termination.
- 2. Persistent:** Prolonged episodes terminated by electrical or chemical Cardio version. Duration greater than 7days.<sup>3</sup>
- 3. Permanent:** Present all the time<sup>4</sup> Restoring sinus rhythm is either not possible or is not deemed appropriate.
- 4. Lone Atrial Fibrillation**

AF in the absence of clinical or echocardiography findings of cardiopulmonary disease patients with LAF who are under 65 have best prognosis. Cause is mainly familial.

The following symptoms were enquired from all the patients. Those include dyspnoea, palpitation, chest pain, fatigue, dizziness, neurological deficit, oliguria. The presence of following signs was made out. That includes pedal edema, puffiness of face, cyanosis, anaemia, signs of hyperthyroidism. Heart rate, pulse rate, pulse deficit, blood pressure monitoring, JVP-absent "a" wave, cardio vascular system examination were documented in all the patients.<sup>5</sup> The diagnosis was made on clinical grounds and then confirmed by ECC and Echocardiogram.

## ECG Recording

A, 12, lead ECC was taken for all the cases. It was standardized to produce a deflection of 10 mm per 1MV input and the paper speed was set at 25 mm per second. The ECC features of AF were noted, it includes<sup>7</sup>

- Absent P wave
- Replaced by irregular chaotic fibrillatory F waves, in the setting of irregular QRS complex.
- Look for LVH, free excitation, bundle branch blocks, acute or prior myocardial infarction

## Echocardiography

- M-mode, 2D echo was done in all the patients.
- The rhythm of heart was noted.
- The presence of valve thickening and calcification and regurgitation were noted.
- Size of valve orifice and chambers of heart were assessed.
- Presence of clot in the atrium and atrium appendages was identified. Vegetations were searched.
- Ejection fraction of ventricle was measured.

## CONCLUSION

The commonest complication was noted in AF cases was heart failure – 32%. CVA with embolic stroke was found in 16% of cases. Left atrial clot was demonstrated by echo cardio graphically in 6% of cases.

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