Original Research Article

TO FIND OUT PROGNOSTIC FACTORS AND CLINICAL PRESENTATIONS AMONG ATRIAL FIBRILLATION PATIENTS IN EMERGENCY MEDICINE DEPARTMENT

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Abstract
Background & Methods: The study aim is to find out various pre-disposing factors and clinical presentations amongst atrial fibrillation patients attending emergency medicine department,BMC Sagar,MP. Patients underwent detailed history, clinical and physical examination to reach the diagnosis of atrial fibrillation and classify it into valvular and non-valvular category. The height & weight of the patient were noted, A 12 lead ECG with rhythm strip recorded and special investigations with echocardiography, chest x-ray, thyroid hormone test, pulmonary function test and stress tests were carried out if required.
Results: During the one year follow up of the study population, 37% patients had valvular etiology and 33% patients had Non-valvular etiology.No statistical significance (p >0.05)was found between the vaivular and non-valvular group. In valvular group 2% patient had a stroke while in non-valvular group 2% had heart failure. These difference was also not statistically significant (p >0.05). Valvular disease patients were in majority 56 %. Out of total study population 51 patients had heart failure and 34 patients had hypertension, 23 patients were having coronary heart disease, 17 patients were having Stroke/TIA, 08 patients having diabetes mellitus, 5 patients with COPD, 01 patient with thyroid disease and 01 patient with ASD while 4 patients were having Lone AF.
Conclusion: The medical community and the general public should be made aware regarding burden and risk associated with AF. Early recognition of AF in patients with risk factors and timely management of underlying conditions and thromboembolic prophylaxis are going to reduce the suffering associated with AF.

Keywords: Pre-disposing risk factors, Clinical Presentation, Atrial Fibrillation.
Study Design: Observational Study

1. Introduction

Atrial fibrillation is associated with increased rates of death, stroke and other thrombo-embolic events, heart failure, hospitalizations, degraded quality of life, reduced exercise capacity and left ventricular (LV) dysfunction [1].

AF confers an increased relative risk of overall mortality ranging from 1.4 times controls in the Manitoba study to 2.3 times controls in the Whitehall study [average 1.7 times controls] and predominantly caused by stroke [2].

Ambulatory ECG recordings and device based monitoring have revealed that an individual may experience periods of both symptomatic and asymptomatic AF.

The initial presentation of AF may be an embolic complication or exacerbation of HF, but most of the patients complaint of palpitations, chest pain, dyspnea, fatigue, lightheadedness, or syncope. Polyuria may be associated with the release of atrial natriuretic peptide, particularly as episodes of AF begin or terminate [3].

AF related with a supported, fast ventricular reaction can prompt tachycardia-intervened cardiomyopathy, particularly in patients uninformed about the arrhythmia [4].

May be the earliest depiction of atrial fibrillation is in The Yellow Head's Exemplary of Interior Medication. The unbelievable sovereign doctor is accepted to have administered China somewhere in the range of 1696 & 2598 BC. The unfortunate visualization related with tumultuous anomaly of the beat was plainly recognized by a large portion of the old doctors, yet in written history, William Harvey in 1628 was likely quick to portray "fibrillation of the auricles" in animals [5&6].

2. Material and Methods

This was an observational study of patients with atrial fibrillation attending Emergency Medicine Department in Bundelkhand Medical College & Hospital, Sagar, M.P from 20/01/2023 to 19/01/2024. The study database was accumulated by prospectively registering patients presenting to department of Emergency Medicine in the hospital with a diagnosis of atrial fibrillation, either chronic or paroxysmal.

Patients underwent detailed history, clinical and physical examination to establish the diagnosis and divide the study group into valvular and non-valvular category. The height & weight were noted. A 12 lead ECG with rhythm strip recording and special investigations with echocardiography, chest x-ray, thyroid function test, pulmonary function test and stress tests were carried out if required.

INCLUSION CRITERIA

1. All Atrial fibrillation patients coming to emergency medicine department of Bundelkhand Medical college and Hospital, Sagar (M.P) during the above mentioned period.
2. Patients must have documented AF or having evidence of atrial fibrillation documented by 12 lead ECG within last 6 months.
3. All consented patients with AF will be enrolled, including those in whom AF is a secondary diagnosis.

EXCLUSION CRITERIA

1. Arrhythmias other than atrial fibrillation, e.g. atrial flutter.
2. Psychologically ill patients and those under legal custody.
3. Anticipated poor compliance with follow-up and any other factor that would jeopardize follow-up, e.g. remote residence.

3. Result

Table No. 1: AGE Distribution

Age Groups(Years)	No.
11-20	02
21-30	10
31-40	12
41-50	25
51-60	13
61-70	12
71-80	7
81-90	01

In our study, the age of patients ranged from 11 years to 90 years. Majority (30%) of patients were in the 41-50 years age group; 02 patients (2.4%) were in the 11-20 age group; 10 patients (12%) were in the 21-30 age group; 12 patients (14.6 %) were in the 31-40 year age group and 13 patients were in the age group of 51-60. There is 14.6% and 8.5% of patients in the 61-70 and 71-80 age groups respectively, 07 patients are older than 75 years of age.

Table No. 2: Blood pressure

Characteristics	Mean, S.D, (Range)
Systolic (mm of Hg)	119.41, 21.77, (60-190)
Diastolic (mm of Hg)	76.32, 14.15, (0-110)

The mean systolic blood pressure of the study population was 119.41 ± 21.77 mm Hg Range (60-190) and the mean diastolic blood pressure was 76.32 ± 14.15 mm Hg Range (0-110).

Table No. 3: Clinical Presentation

Clinical Presentation	No. of patients
Heart Failure	40
Cerebral Vascular Accidents	8
Peripheral embolism	01
Myocardial Infarction	10
Bleeding	02
Asymptomatic	10
Others	11

In our study majority of the patients were presented with heart failure 40 (48.7%) followed by myocardial infarction 10(12%) and cerebrovascular accidents (9.75%). There were 02 patients presented with fast ventricular response, 02 patients had acute chest infection and 02

patients had syncopal attacks. 01 patient presented with bleeding due to warfarin overdose and 01 with peripheral embolism, 12% of patients were symptomatic during presentation.

Table No. 4: Co morbidities

Co morbidities	No of Patients
Valvular heart disease	24
Heart failure	21
Hypertension	13
Coronary Artery Disease	9
Stroke / T.I.A	7
Diabetes Mellitus	3
COPD	02
Lone AF	01
Hyperthyroidism	01
Congenital Heart Disease (ASD)	01

Majority were of valvular disease i.e.; 24 patients followed by 21 patients with heart failure and 13 patients with hypertension. 9 patients were having coronary heart disease, 7 patients were having stroke/T.I.A, 03 patients having diabetes mellitus, 02 patients with COPD, 01 with thyroid disease and 01 with ASD while 04 patients were having Lone AF.

Table No. 5: Outcome

Outcomes					
	Death	Stroke	Non C.N.S embolism	Major Bleeding	Heart Failure
Valvular	(37%)	(2%)	00	00	00
Non Valvular	(33%)	0	00	00	(2%)

During the 12 months follow up in the study, 37% patients were classified in valvular group and 33% in Non Valvular group. This difference was not statistically significant (p >0.05). 2% patients in valvular group had a stroke while 2% patients in non valvular group had heart failure. This difference was also not statistically significant (p >0.05).

4. Discussion

The mean systolic pressure of our review populace was 118.34 ± 23.65 mm of Hg and diastolic circulatory strain was 74.56 ± 16.15 mm of Hg. As per the RELY AF vault the mean systolic pulse in Indian population was 132 ± 20 mm of Hg while in the Acknowledge AF library the mean systolic circulatory strain in the worldwide population was 132.8 mm of Hg & the diastolic was 79.8 mm of Hg[7].

The mean pressure of our review population is on the lower side on correlation with the information of different examinations. This distinction can be credited to the low predominance of hypertension in our review population[8].

In our review larger part of the patients gave cardiovascular breakdown (51%) trailed by myocardial dead tissue (11%),&stroke (9%).

In the Acknowledge AF vault intense decompensating of cardiovascular breakdown is the most well-known guilty party for successive & extreme cardiovascular occasions prompting spontaneous hospitalization followed by intense coronary condition & stroke. The information in our review is reliable with the worldwide patterns, albeit the weight of cardiovascular breakdown in the continuous hospitalization is exceptionally high in our review population[9].

Larger part of patents in our review was considered to have long-lasting AF (72%), while 18% of patients were having paroxysmal&10% were having determined AF. A little less than half of patients in RE LY AF vault were having extremely durable AF while it was 46.4% in Acknowledge AF registry[10]. Paroxysmal & steady AF represents 34%&26% separately in the RE LY AF vault.

5. Conclusion

The need to educate the public as well as the medical community regarding burden and risk associated with AF in the population is obvious. Early recognition of AF in patients with risk factors and timely treatment of underlying conditions and thromboembolic prophylaxis are going to reduce the suffering associated with AF.

6. References

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