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To find out various pre-disposing conditions and clinical presentations amongst patients attending cardiology/ medicine

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Abstract
Background & Method: This study was conducted with an aim to find out various pre-disposing conditions and clinical presentations amongst patients attending cardiology/ medicine with nonvalvular atrial fibrillation in the setting of a tertiary level university teaching hospital the MGM Medical College & Maharaja Yeshwant Rao Hospital in Indore, M.P. The study database was accumulated by prospectively registering patients presenting to the outpatient department of the Department of Medicine, the Cardiology Clinic and the ICCU of the hospital with a diagnosis of atrial fibrillation, either chronic or paroxysmal. **Result:** In our study majority of the patients presented with heart failure (51%) followed by myocardial infarction (11%), and cerebrovascular accidents (9%). There were 3 patients presented with fast ventricular response, 2 patients had acute chest infection and 2 patients had syncopal attacks. One patient presented with bleeding due to warfarin overdose and one with peripheral embolism. 12% of patients were symptomatic during presentation. Other presentations are Infective endocarditis, Ventricular tachycardia, acute febrile illness, diabetes, Koch's abdomen, aluminum phosphide poisoning and upper respiratory tract infection. **Conclusion:** To conclude, we found that majority of the patients with AF in the central Indian population presented with heart failure. Other major clinical presentations were myocardial infarction and cerebrovascular accidents. We found that valvular heart disease mainly the mitral valvular involvement as the most common pre-disposing condition for atrial fibrillation in this part of the country. Other co morbidities were heart failure and hypertension which was consistent with the global data.
Keywords: pre-disposing, cardiology & medicine.
Study Designed: Observational Study.

Introduction

Atrial fibrillation is a ubiquitous yet diverse cardiac arrhythmia whose incidence increases with age; with most forms of cardiac and some pulmonary diseases; and with a number of metabolic, toxic, endocrine, or genetic abnormalities[1]. It accounts for most of the hospitalizations related to cardiac rhythm disturbances and characterized by uncoordinated atrial activation with consequent deterioration of atrial mechanical function[2]. On the electrocardiogram (ECG), AF is described by the replacement of consistent P waves by rapid oscillations or fibrillatory waves that vary in size, shape, and timing, associated with an irregular, frequently rapid ventricular response when atrioventricular (AV) conduction is intact. The ventricular response to AF depends on electrophysiological properties of the AV node, the level of vagal and sympathetic tone, and the action of drugs[3].

Standard RR stretches are conceivable within the sight of AV square or impedance due to ventricular or junctional tachycardia. Inpatients with electronic pacemakers, finding of AF might require brief restraint of the pacemaker to expose atrial fibrillatory activity[4].

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A fast, sporadic, maintained, wide-QRS-complex tachycardia unequivocally recommends AF with conduction over an adornment pathway or AF with basic group branch block. Amazingly fast rates (over 200bpm) propose the presence of an adornment pathway[5].

Material & Method

This was an observational study of patients with nonvalvular atrial fibrillation in the setting of a tertiary level university teaching hospital the MGM Medical College &Maharaja Yeshwant Rao Hospital in Indore, M.P from July 2019 to Dec 2019. The study database was accumulated by prospectively registering patients presenting to the outpatient department of the Department of Medicine, the Cardiology Clinic and the ICCU of the hospital with a diagnosis of atrial fibrillation, either chronic or paroxysmal.

Inclusion criteria
1. All consecutive patients attending cardiology/ medicine services of M.Y.Hospital, Indore during the recruitment period.
2. Patients must have documented AF or having evidence of atrial fibrillation documented by 12 lead ECG within preceding 6 months.
3. All consented patients with AF will be enrolled, including those in whom AF is a secondary diagnosis(i.e.; patients seen for heart failure, pneumonia, etc).

Exclusion criteria
1. Patients with arrhythmias other than atrial fibrillation, e.g. atrial flutter, atrial tachycardias.
2. Patients with psychiatric illness and those under legal custody.

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3. Anticipated poor compliance with follow-up and any other factor that would jeopardize follow-up, e.g. remote residence.

4. Patients with valvular heart disease leading to atrial fibrillation.

Results

Table 1: Atrial Fibrillation Cohort: Baseline Characteristics (N=100)

Age Groups(Years)	No of Patients
11-20	3
21-30	11
31-40	14
41-50	28
51-60	19
61-70	15
71-80	8
81-90	2

Table 2: Type of atrial fibrillation

Type of atrial fibrillation	No of Patients
Paroxysmal	18
Persistent	10
Permanent	72

Table 3: Classification

Classification	B.M.I(Kg/m^2)	No of patients
Underweight	<18.5	35
Normal range	18.5-24.9	51
Preobese	25-29.9	12
Obese I	30-34.9	2
Obese II	35-39.9	0
Obese III	≥40	0

Table 4: Clinical Presentation

Clinical Presentation	No
Heart Failure	51
Cerebral Vascular Accidents	9
Peripheral embolism	1
Myocardial Infarction	11
Bleeding	1
Asymptomatic	12
Others	15

In our study majority of the patients presented with heart failure (51%) followed by myocardial infarction (11%), and cerebrovascular accidents (9%). There were 3 patients presented with fast ventricular response, 2 patients had acute chest infection and 2 patients had syncopal attacks. One patient presented with bleeding due to warfarin overdose and one with peripheral embolism. 12% of patients were symptomatic during presentation. Other presentations are Infective endocarditis, Ventricular tachycardia, acute febrile illness, diabetes, Koch's abdomen, aluminum phosphide poisoning and upper respiratory tract infection.

Discussion

The mean age of the AF patients in the western population is 66.6 ± 12.2 and 73.9% of the patients are in the age gathering of ≥ 60 years as per the Realize AF vault. In the Indian population the mean age of the AF patients is 60 years and barring the rheumatic coronary illness, T.B and HIV the mean age assessed is 65 years according to the information of RELY AF registry[6]. In our review, AF happened in a more youthful population, the mean age 50.13 ± 16.26 years. Larger part (28%) of patients was in the 41-50 years age bunch and 10% patients were over 75 years old. In our review larger part of the patients gave cardiovascular breakdown (51%) trailed by myocardial localized necrosis (11%), and stroke (9%). In the Realize AF library intense decompensation of cardiovascular breakdown is the most widely recognized offender for successive and extreme cardiovascular occasions prompting spontaneous hospitalization followed by intense coronary disorder and stroke. The information in our review is reliable with the worldwide patterns, albeit the weight of cardiovascular breakdown in the incessant hospitalization is exceptionally high in our review population[7]. Larger part of licenses in our review was considered to have super durable AF (72%), while 18% of patients were having paroxysmal and 10% were having relentless AF. A little less than half of patients in RELY AF vault were having long-lasting AF while it was 46.4% in Realize AF library. Paroxysmal and steady AF represents 34% and 26% separately in the RELY AF registry[8].

Conclusion

To conclude, we found that majority of the patients with AF in the central Indian population presented with heart failure. Other major clinical presentations were myocardial infarction and cerebrovascular accidents.We found that valvular heart disease mainly the mitral valvular involvement as the most common pre-disposing condition for atrial fibrillation in this part of the country. Other co morbidities were heart failure and hypertension which was consistent with the global data.

References

1. Kannel WB, Wolf PA, Benjamin EJ, et al. Prevalence, incidence,prognosis, and predisposing conditions for atrial fibrillation:population-based estimates. Am J Cardiol. 1998;82: 2N–9N.
2. Brugada R, Tapscott T, Czernuszewicz GZ, et al. Identification of a genetic locus for familial atrial fibrillation. N Engl J Med. 1997;336:905–911.

3. Prystowsky EN, Katz AM. Atrial fibrillation. In: *Textbook of Cardiovascular Medicine*. Philadelphia: Lippincott-Raven, 1998:1661.

4. Wang TJ, Larson MG, Levy D, et al. Temporal relations of atrial fibrillation and congestive heart failure and their joint influence on mortality: the Framingham Heart Study. Circulation 2003;107:2920 –5.

5. Jahangir A, Lee V, Friedman PA, Trusty JM, Hodge DO, Kopecky SL, Packer DL, Hammill SC, Shen WK, Gersh BJ. Long-term progression and outcomes with aging in patients with lone atrial fibrillation: a 30-year follow-up study. Circulation 2007;115:3050–3056.

6. Allessie M, Ausma J, Schotten U. Electrical, contractile and structural remodeling during atrial fibrillation. Cardiovasc Res 2002;54:230–46.

7. Miyasaka Y, Barnes ME, Gersh BJ, Cha SS, Bailey KR, Abhayaratna WP, Seward JB, Tsang TS. Secular trends in incidence of atrial fibrillation in Olmsted County Minnesota, 1980 to 2000, and implications on the projections for future prevalence. Circulation 2006;114:119–125.

8. Pappone C, Augello G, Sala S, Gugliotta F, Vicedomini G, Gulletta S, Paglino G, Mazzone P, Sora N, Greiss I, Santagostino A, LiVolsi L, Pappone N, Radinovic A, Manguso F, Santinelli V. A randomized trial of circumferential pulmonary vein ablation versus antiarrhythmic drug therapy in paroxysmal atrial fibrillation: the APAF Study. J Am Coll Cardiol 2006;48: 2340–2347.

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