



THE CLINICO-ETIOLOGICAL PROFILE OF ATRIAL FIBRILLATION IN TERTIARY CARE CENTRE BAREILLY

Cardiology

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ABSTRACT

BACKGROUND: Atrial fibrillation is the most common sustained arrhythmia in clinical practice. In India, rheumatic heart disease is the commonest cause of atrial fibrillation, but in western countries it is the rarest cause of atrial fibrillation. This study was conducted to find out the etiological and clinical profile of patients with atrial fibrillation.

MATERIAL AND METHODS: 100 cases of atrial fibrillation admitted in cardiology and general medicine OPD and IPD over a period of one year were enrolled for the study. Detailed history and clinical examination were carried out.

RESULTS: out of 100 patients of atrial fibrillation 43 were male and 57 were female. Female to male ratio is 1:1.3. Majority of the patients were aged between 51 to 60 years. Rheumatic heart disease (43%) was found to be the most common cause. Palpitation (32%) was the most common presenting complaint. Among 43 patients with Rheumatic heart disease 13 were male and 30 were female.

CONCLUSION: In our study rheumatic heart disease was found to be the most common cause of atrial fibrillation followed by dilated cardiomyopathy. Females were more affected as compared to males.

KEYWORDS

Atrial Fibrillation, Rheumatic Heart Disease.

INTRODUCTION

Atrial fibrillation is the most common sustained arrhythmia in day to day clinical practice. It is associated with substantial morbidity and mortality. It is characterized by uncoordinated atrial activation with consequent loss of atrial mechanical function. ECG show rapid fibrillatory waves with varying morphology and ventricular rhythm that is irregularly irregular with possibly changing QRS morphology as well.¹

Clinically, it is recognized by irregularly irregular pulse with rates varying from normal to 200 beats per minute and pulse deficit of more than 10 beats per minute. Absence of P wave with irregular rhythm is the hallmark of atrial fibrillation.

Atrial fibrillation has been classified^{2,3} by American Heart Association/ American college of cardiology/ European Society of cardiology into first detected episode recurrent (2 or more episodes), paroxysmal (terminates within 7 days), persistent (persist more than 7 days) and permanent (sustained for more than one year or has failed cardioversion).

Cardiac comorbidities that are associated with atrial fibrillation includes hypertension, coronary artery disease (CAD), valvular heart disease (VHD), congestive heart failure (CHF), cardiomyopathy, pericarditis, congenital heart disease (CHD) and cardiac surgery.^{4,5} Non cardiac comorbidities are acute pulmonary embolism, chronic obstructive pulmonary disease (COPD), obstructive sleep apnea, hyperthyroidism and obesity.^{6,7}

The life time risk of developing AF is approximately 25%, and it mainly affects older persons. The overall prevalence of AF in general population is estimated to be 0.4% to 1%.⁸ The incidence of AF is 0.1% per year in the population below 40 years and increases to 2% in those over 80 years.⁹ The incidence and prevalence of atrial fibrillation increase exponentially with age.¹⁰ Men have an approximately 50% higher incidence than women.¹¹

Cerebrovascular complications are further important cause of functional limitation of such patients.^{13,14}

Although various studies have been conducted worldwide but limited data is available. Hence this study was undertaken with the aim to find out the clinical and etiological profile of atrial fibrillation patients in tertiary care hospital.

MATERIAL AND METHODS

This observational hospital based study was carried out in Department

of General medicine and Cardiology in SRMS IMS Bareilly from 1st January 2016 to 31st December 2017 after taking ethical clearance from the institution.

Clinical history and examination was done in detail where it was found necessary. History of past illness was also taken. Routine investigations along with electrocardiography and echocardiography was done in all the patients.

RESULTS

TABLE 1: Sex distribution in Atrial Fibrillation

100 cases were taken in this study. Out of 100 cases 43 were male, 57 were female. Male to female ratio was 0.75: 1.

Sex	Number of subjects (n)	Percentage (%)
MALE	43	43%
FEMALE	57	57%

TABLE 2: Age distribution of Atrial Fibrillation patients

In this study patients were in between 18 years to 89 years with mean of 52.4 +_ 5.2 years. The maximum number of cases (32%) found between 51- 60 years of age.

Age	Number of subjects (n)	Percentage (%)
16-20	5	5%
21-30	7	7%
31-40	15	15%
41-50	18	18%
51-60	32	32%
61-70	8	8%
71-80	7	7%
>80	8	8%

TABLE 3: Clinical profile of Atrial Fibrillation patients

The main presenting complaints were palpitation (32%), dyspnea (18%), chest pain (12%), loss of consciousness (18%) and hypertension (12%). 8% of cases were asymptomatic.

Symptoms	Number of subjects (n)	Percentage (%)
PALPITATION	32	32%
DYSPNEA	18	18%
CHEST PAIN	12	12%
LOSS OF CONCIIOUSNESS	18	18%
HYPOTENSION	12	12%
ASYMPTOMATIC	8	8%

TABLE 4: Etiological profile of patients with Atrial Fibrillation

Valvular heart disease was found in 43% of cases and non- structural heart disease were found in 12% cases.

Etiology	Number of subjects (n)	Percentage (%)
VALVULAR HEART DISEASE	43	43%
DILATED CARDIOMYOPATHY	23	23%
IHD	14	14%
HTN	8	8%
COPD	5	5%
THYROTOXICOSIS	3	3%
LONE AF	4	4%

TABLE 5: Type of Atrial Fibrillation

Regarding the type of AF persistent AF was the most common (34%) in our study, followed by permanent(24%), first detected episode (20%), recurrent (12%), and paroxysmal (10%).

Type of AF	Number of subjects (n)	Percentage (%)
First detected episode of AF	20	20
Recurrent episode	12	12
Paroxysmal AF	10	10
Persistent AF	34	34
PERMANENT AF	24	24

DISCUSSION

In our study AF was more common in the age group of 51- 60 years of age. Our study is supported by Lip Gy, Golding DJ in which majority of people fibrillated after age of 50 years.¹⁵

In the present study sex ratio of female to male is 0.75:1. AF with valvular heart disease being more frequent among women than men which was similar to studies done by Lok NS, Lau CP in which the ratio was 1.8:1.¹⁶

In the present study palpitations (32%) was the most common presenting complaint followed by dyspnea (18%) and chest pain (12%). In the study by Lok LS, Lau CP dyspnea was seen in (38.1%) and palpitation (42.3%) which was similar to our study results.¹⁶ In the study by Tischler et al he reported palpitation in 33% of patients which is similar to our study.¹⁷

In our study valvular heart disease was the most common cause followed by dilated cardiomyopathy, IHD, HTN, COPD, thyrotoxicosis, lone AF. Our study is supported by Davis et al, Singh et al, Kumar et al, Timane et al, Levey et al in which valvular heart disease was the most common cause of AF.^{18,19,20,21,22}

CONCLUSION

In our study palpitation was the commonest presenting complaint in atrial fibrillation. Our AF cases were elderly with female predominance. Persistent and permanent were the most common type of AF seen in patients of our study. Valvular heart disease, cardiomyopathy, IHD, HTN, COPD are the potential risk factors for atrial fibrillation.

REFERENCES

1. Prysowsky EN, Padamilam BJ, Waldo AL. Hurst's: The Heart. Eds. Valentin F et al. McGraw Hill, 13th Edition 2011;: 963-81.
2. Fuster, V Ryden LE. Asinger RW et al. ACC/AHA/ESC guidelines for the management of patient with atrial fibrillation (committee to develop guidelines for the management of patients with AF) circulation 2001; 104: 2118-2150
3. Levy S. Classification system of AF. Cur opin cardiol 2000;15:54-57
4. Carson PE, Johnson GR, Dunkman WB, Fletcher RD, Farrell L, Cohn JN: The influence of atrial fibrillation on prognosis in mild to moderate heart failure: The V-HeFT Studies. The V-HeFT VA Cooperative Studies Group. Circulation. 1993; 87: VII102-VII110.
5. Wong CK, White HD, Wilcox RG, Criger DA, Califf RM, Topol EJ, Ohman EM: New atrial fibrillation after acute myocardial infarction independently predicts death: The GUSTO-III experience. Am Heart J. 2000; 140: 878 - 885.
6. Buch P, Friberg J, Scharling H, Lange P, and Prescott E: Reduced lung function and risk of atrial fibrillation in the Copenhagen City Heart Study. Eur Respir J. 2003; 21: 1012-1016.
7. Wang TJ, Parise H, Levy D, D'Agostino RB Sr, Wolf PA, Vasan RS, Benjamin EJ: Obesity and the risk of new-onset atrial fibrillation. JAMA. 2004; 292: 2471-2477
8. Lloyd-Jones DM, Wang TJ, Leip EP, et al. Lifetime risk for development of atrial fibrillation: the Framingham Heart Study. Circulation. 2004;110: 1042-6.
9. Go AS, Hylek EM, Phillips KA, et al. Prevalence of diagnosed atrial fibrillation in adults. JAMA 2001;285:2370-5.
10. Wolf PA, Abbott RD, Kannel WB. Atrial fibrillation: A major contributor to stroke in the elderly. The Framingham study. Arch Intern Med 1987;147:1561-4.

11. Falk RH. Atrial Fibrillation. New Eng. J. Med. 2001;344:1067-77.
12. Benjamin EJ, Levy D, Vaziri SM et al. Independent risk factors for atrial fibrillation in a population-based cohort: the Framingham Heart Study. JAMA. 1994; 271: 840-4
13. Wolf PA, Abbott RD, Kannel WB. Atrial fibrillation: A major contributor to stroke in the elderly: The Framingham study. Arch Intern Med 1987; 147:1561-4.
14. Wolf PA, Abott RD, Kannel WB. Atrial fibrillation as an independent risk factor for stroke: the Framingham study. Stroke 1991;22:983-8.
15. Lip GY. Golding DJ - A survey of atrial fibrillation in general practice. British Jr. of general practice. 1997; 47 (418) 285 - 289.
16. Lok NS, Lau CP - Presentation and Management of patients admitted with atrial fibrillation. International Jr. of Cardiology. 1995; 48 (3): 271 - 278.
17. Tischler MD, Le TH, Andrew KAM, et al. Clinical echocardiographic and doppler correlates of clinical instability with onset of atrial fibrillation. Am J Cardiol 1990;66:721-24.
18. Davies MJ and Pomerance. A Pathology of atrial fibrillation in man. British Heart J 1972; 34:520-25
19. Singh G, Arora P, Nayyar SB, et al. Study of atrial fibrillation an etiological review. JAPI 2002; 50:1500.
20. Kumar AA, Arora P, Singh G, et al. Clinical profile of atrial fibrillation (AF)-study of 100 cases. JAPI 2002; 50:1558.
21. Timane JM, Hardas MM, Agrawal SS, et al. Atrial fibrillation - A study by colour Doppler - 2D echocardiographic and its correlation with etiology and clinical profile. JAPI 2005;53:324
22. Levy S, Maarek M, Guize L, et al. Characterization of different subsets of atrial fibrillation in general practice. Circulation 1999; 99:3028-35.