Scholars Journal of Applied Medical Sciences (SJAMS) **ISSN 2320-6691 (Online)**
Sch. J. App. Med. Sci., 2015; 3(3F):1422-1425 **ISSN 2347-954X (Print)**

(An International Publisher for Academic and Scientific Resources)
www.saspublishers.com DOI: 10.36347/sjams.2015.v03i03.078

Research Article

Evaluation of Morbidity and Mortality Associated with Atrial Fibrillation

Prasanna Yadav[1*], Pramod Sakhi M.D[2], Rekha Gupta[3]
[1]Associate Professor, Department of Medicine Index Medical College, Indore, Madhya Pradesh, India
[2]Department of Radiodiagnosis, Index Medical College, Indore, Madhya Pradesh, India
[3]Department of Obstetrics & Gynaecology, Mordern Medical College, Indore, Madhya Pradesh, India

***Corresponding author**
Dr. Prasanna Yadav
Email: prasanna_yadav10@yahoo.com

Abstract: Although we have known for almost 100 years, atrial fibrillation is the most common of serious cardiac rhythm disturbances, which is responsible for substantial morbidity and mortality in the general population. The study aims to evaluate the clinical profile of admitted patients along with different types of morbidities and mortality in atrial fibrillation patients. Our study comprised of 130 admitted atrial fibrillation patients in total period of 2 years. All patients were examined & investigated. The prevalence of atrial fibrillation increased with advancing age. Cardiac failure was the most frequent complication followed by hypotensive shock. As far as morbidity is concerned, cardiac failure is the most frequent complication followed by hypotensive shock and thrombo embolism. Regarding mortality celphos poisoning has the worst prognosis, followed by coronary artery disease and rheumatic heart disease.
Keywords: Atrial fibrillation (AF), Heart Failure (HF), Mortality, Morbidity, Rheumatic Heart Disease (RHD), Coronary Artery Disease (CAD).

INTRODUCTION

Although we have known for almost 100 years that, atrial fibrillation is the most common of serious cardiac rhythm disturbances, which is responsible for substantial morbidity and mortality in the general population [1]. The prevalence of AF is approximately 9.1% with clinical cardiovascular disease in patient of 65 years or older, while 4.6%, in those with subclinical cardiovascular disease [2]. AF may produce significant morbidity and increase mortality in some groups [3]. AF is associated with an increased risk of stroke and thrombo-embolic events [4]. Study was carried out at SAIMS and PG institute Indore. In last 2 year, we have taken 130 admitted patients of AF for our study.

Aims and Objective

- To evaluate the clinical profile of admitted patients.
- To study different types of morbidities in patients with AF.
- To evaluate associated mortality in patients with AF

MATERIALS AND METHODS

Selection Criteria

Our study comprised of 130 admitted patients selected from SAIMS Hospital and PG institute Indore. The study was conducted during the time of January 2012 to December 2013. All patients were thoroughly interrogated, examined, routine & special investigation was carried out.

RESULTS

It is evident from the table-1 that the prevalence of atrial fibrillation increased with advancing age with equal sex predisposition.

Cardiac failure was the most frequent complication followed by hypotensive shock and thrombo embolism.

It is evident that cardiomegaly was present only in 29.6%, However 63.9% cases did not reveal any radiological abnormality.

Celphos poisoning had the worst prognosis, followed by coronary artery disease and rheumatic heart disease. No mortality was seen in cases of hypertension, thyrotoxicosis and alcoholics.

Table 1: Prevalence of atrial fibrillation in different age groups with sex distribution

Sl. No.	Age Group (years)	Male	Female	Total	Percentage
1	≤ 20	3	3	6	4.61
2	21-39	13	19	32	24.61
3	40-59	9	23	32	24.61
4	>60	40	20	60	46.15
Total		65	65	130	100%

X^2 = 13.91 p<0.05 Significant

Table 2: Various complication in presence of atrial fibrillation (n-130)

Sl. No.	Etiological factors	RHD (n-46)	CAD (n-27)	Lone (n-20)	HTN (n-6)	Total (%)
1	Thromboembolism	11(23.9%)	2(7.4%)	7(35.0%)	2(33.3%)	22%
2	Cardiac failure	23(50.0%)	5(18.5%)	7(35.0%)	2(33.3%)	37%
3	Hypotensive Shock	18(39.1%)	6(22.2%)	10(50.0%)	1(16.7%)	35%
Total		52	13	24	5	94

X^2 = 43.59 p<0.001 Highly Significant

Table 3: Various radiological findings in atrial fibrillation (n-108)

Sl. No.	Imaging Findings	No. of Patients	Percentage
1	Cardiomegaly	32	29.6
2	Emphysema	7	6.48
3	Within normal limit	69	63.9
Total		108	100

Table 4: Final outcome in atrial fibrillation patients

S. No.	Etiology	Improved		Expired	
		No.	%	No.	%
1	RHD (n-46)	41	89.13	5	10.86
2	CAD (n-27)	23	85.18	4	14.81
3	HTN (n-6)	6	100	-	-
4	DCM (n-7)	6	85.71	1	14.81
5	Thyrotoxicosis (n-3)	3	100	-	-
6	Alcoholic (n-3)	3	100	-	-
7	COPD (n-7)	5	71.0	2	28.57
8	Celphos Poisoning (n-11)	5	45.45	6	54.54
9	Lone(n-20)	19	95.0	1	5.0

X^2 = 15.34 p<0.05 Significant

Fig. 1: Chest radiogram: Mild Cardiomegaly with pulmonary odema in AF patient

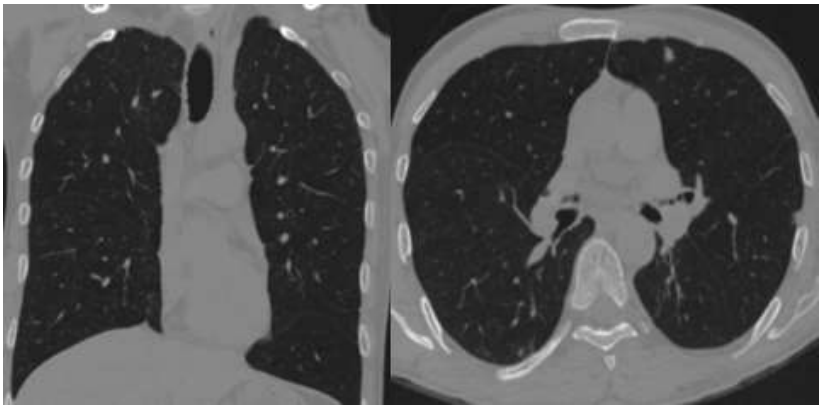

Fig. 2 A & B: HRCT thorax showed emphysematous changes in AF patients

DISCUSSION

The study shows that the risk of atrial fibrillation increases with advancing age, the maximum number of patients were seen in the age group> 60 years & this was found to be statistically significant. Micheal Domanski *et al*. [5] has also observed that incidence of atrial fibrillation increases with advance age. Benjamin *et al*. [6] also reported that the incidence of atrial fibrillation more than doubled for each increasing decade of age. The increasing incidence of atrial fibrillation with advancing age may be due to atherosclerotic phenomenon, which can cause CAD & HTN.

In present series, among 130 cases, (28.46%) patients with hypotensive shock. In a 14 years follow up case control study, mortality rate was found to be 32% in CAF group compared with 20% in control group [7]. According to Peterson & Godtfredsen [8], 5 year survival in atrial fibrillation & for PAF was 52% & 59% respectively. Atrial fibrillation is reported to be rare in uncomplicated coronary artery disease & occurs more frequently when congestive cardiac failure is present [6].

The association between AF and heart failure was appreciated almost a century ago [9]. White PD had noted that auricular fibrillation often complicates serious heart disease and its occurrence may precipitate heart failure or even death if successful therapy is not instituted quickly [10]. Framingham Heart Study reported that 1470 participants developed either new AF or heart failure between the years 1948-1995. Among them a total of 26% developed both AF and heart failure [11]. The prevalence of AF in patients with heart failure has been reported to be increased in parallel with the severity of the disease that ranges from 5% in patients with mild to 10-26% among patients with moderate up to 50% in patients with severe heart failure [12]. In our study, cardiac failure was most frequent complication. It has been observed that increase in proportion of mortality to the severity of Heart failure from <10% in those with New York Heart Association (NYHA) functional class I HF to approximately 50% in those with NYHA functional class IV HF [13].

CONCLUSION

In general population, atrial fibrillation is commonest of the cardiac arrhythmias. Our study comprises of 130 admitted patients. We found that the prevalence of atrial fibrillation increases with advancing age. As far as morbidity is concerned, cardiac failure is the most frequent complication followed by hypotensive shock and thrombo embolism. Regarding mortality celphos poisoning has the worst prognosis, followed by coronary artery disease and rheumatic heart disease.

REFERENCE

1. Kannel WB, Wolf PA, Benjamin EJ, Lavy D; Prevalence, incidence prognosis and predisposing conditions for atrial fibrillation;population-based estimates. Am J Cardiol., 1998: 82(8A): 2-9.
2. Furberg CD, Psaty BM, Manolio TA; Prevalence of atrial fibrillation in elderly subjects (The Cardiovascular Health Study) Am J Cardiol., 1994; 74(3): 236.
3. Gajewski J, Singer RB; Mortality in an insured population with atrial firilation. JAMA, 1981; 245(15): 1540-1544.
4. Petersen P, Godtfredsen J, Boysen G, Andersen E, Andersen B; Placebo-controlled, randomised trial of warfarin and aspirin for prevention of thromboembolic complications in chronic atrial fibrillation: the Copenhagen AFASAK study. The Lancet, 1989; 333(8631): 175-179.
5. Michael j Domanski; The epidemiology of atrial fibrillation. C.A.D, 1995.
6. Benjamin E, Levy D; Independent risk factors for atrial fibrillation in a population based cohort. The Framingham Study. JAMA, 1994.
7. Onundarson PT, Thorgeirsson G, Jonmundsson E, Sigfusson N, Hardarson TH; Chronic atrial fibrillation- epidemiologic features and 14years follow up: A case control study. Eur Heart J., 1987: 8(5): 21-27.

8. Petersen P, Godtfredsen J; Atrial fibrillation: A review of course and prognosis, Acta Medica Scandinavica, 1984; 216(1): 5–9.
9. Mackenzie J; Diseases of the Heart. 3rd edition, Oxford Medical Publications, London, UK, 1914.
10. White PD; Heart Disease. The McMillan Co. New York, 1937.
11. Wang TJ, Larson MG, Levy D, Vasan RS, Leip EP, Wolf PA *et al*.; Temporal relations of atrial fibrillation and congestive heart failure and their joint influence on mortality: the Framingham Heart Study. Circulation, 2003; 107(23): 2920–2925.
12. Maisel WH, Stevenson LW; Atrial fibrillation in heart failure: epidemiology, pathophysiology, and rationale for therapy. Am J Cardiol., 2003; 91(6): 2–8.
13. Maisel WH, Stevenson LW; Atrial fibrillation in heart failure: epidemiology, pathophysiology, and rationale for therapy. Am J Cardiol., 2003; 91(6A): 2D-8D.