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Clinical Profile of Atrial Fibrillation among Hospitalized Patients in a Tertiary Care Setting: A Cross Sectional Study

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Abstract:
Background: Atrial fibrillation (AF) is a prevalent cardiac arrhythmia with significant implications for cardiac function and overall health. Despite its historical recognition, its clinical profile and outcomes remain critical for effective management.
Methods: This cross-sectional study conducted between March 15, 2022, and December 31, 2022, at the Department of Medicine and Cardiology, Indira Gandhi Medical College and Hospital, Shimla investigated AF's clinical profile and outcomes. Patients with AF were enrolled based on inclusion criteria. Data was collected from 150 hospitalized AF patients aged 18 and above. Demographic data, clinical histories, investigations, treatments, and outcomes were collected and analyzed using Epi Info software.
Results: Among 150 participants, the majority were females (71.33%), aged 60-80 years (47.33%), and from varied educational backgrounds. Symptomatic presentation included dyspnea (58.67%), palpitations (34.67%), and chest pain (16%). Comorbidities like hypertension (24.3%), diabetes (18%), and heart failure (8.66%) were observed. Treatment involved beta-blockers (82%), anticoagulants (41.33% Warfarin, 23.33% Rivaroxaban), and diuretics (55.33%). Successful cardioversion was achieved in 81.81% of cases.
Conclusion: This study contributes to understanding AF's clinical profile, emphasizing the role of risk factors, comorbidities, and tailored interventions. Early detection, optimized treatment, and multidisciplinary management are crucial to enhance outcomes.

Keywords: Atrial fibrillation, clinical profile, outcomes, risk factors, treatment, cardiovascular health.

INTRODUCTION

Atrial fibrillation (AF) stands as the most prevalent cardiac arrhythmia encountered in clinical practice, manifesting as rapid, disorganized excitation of the atria and irregular activation of the ventricles. This condition can have substantial implications on cardiac function, quality of life, and overall health, with a heightened risk of stroke and exacerbation of heart failure or acute coronary syndrome. Historical accounts from ancient China, Egypt, and Greece documented physicians' recognition of the chaotic irregularity of arterial pulse, an early indication of AF's existence.[1-3]

Notably, historical observations also include Harvey's account of ineffective atrial palpitations preceding death, possibly reflecting atrial fibrillation. Harvey's insight into the origin of the heart's rhythm, further substantiated by de Senac in the 18th century, laid the groundwork for understanding AF's pathophysiology. The 20th century brought significant advancements with contributions from pioneers like Wenckebach, Moe, Lown, and Allessie, solidifying the comprehension of AF's pathophysiological underpinnings and clinical features.[4-5]

Clinical presentation of AF encompasses palpitations, impaired exercise tolerance, and symptoms of cardiac failure. Diagnostic identification involves detecting an irregularly irregular pulse during clinical examination and confirming AF through electrocardiography. Characteristic electrocardiographic changes include variable ventricular rate, absence of P waves, and fibrillatory waves of varying amplitude.[6,7]

The etiology of AF is multifactorial, involving hypertension, coronary artery disease, valvular heart disorders, hyperthyroidism, and other conditions. Thrombus formation due to loss of atrial contractions in AF increases the risk of stroke, further highlighting the clinical significance of this arrhythmia. Additionally, impaired cardiac output and the potential development of heart failure underscore the importance of managing AF's impact on overall cardiovascular health.[8-10]

ISSN: 0975-3583,0976-2833 VOL14, ISSUE 09, 2023

Globally, AF's prevalence has escalated, particularly in countries with high socio-demographic indices. This epidemiological shift underscores the pressing need to comprehensively understand the clinical profile and outcomes of AF. This study seeks to contribute to this understanding by investigating the clinical profile and outcomes of AF within a tertiary care center situated in Shimla, a historic hill station that has transitioned from being the summer capital of British India to a contemporary healthcare hub. As the burden of AF continues to rise, this research aims to illuminate critical insights to guide effective management and intervention strategies.

Aims and Objectives

This cross-sectional study aims to comprehensively investigate the clinical profile and outcomes of patients with Atrial Fibrillation (AF) within the context of a tertiary care setting at the esteemed Indira Gandhi Medical College and Hospital in Shimla, Himachal Pradesh.

MATERIALS AND METHODS

Study Setting: The study will be conducted in the distinguished Department of Medicine and Cardiology at the Indira Gandhi Medical College and Hospital, Shimla.

Study Design: This research employs a rigorous cross-sectional observational design to capture a snapshot of the clinical landscape surrounding AF.

Study Duration: The study, spanning from the 15th of March 2022 to the 31st of December 2022, unfolds across a period of 9 months and 16 days.

Study Participants: The study's participants will encompass consecutive patients hospitalized in a range of specialized units including male and female medical wards, coronary care unit, intensive care unit, cardiology female and male wards, post-catheterization ward, and the new coronary care unit. Patients admitted to these units, presenting electrocardiographic (ECG) evidence of AF, will be eligible for enrolment upon providing informed written consent in both English and the vernacular language.

Inclusion Criteria:

- Patients aged 18 years and above
- Patients who have experienced Atrial Fibrillation either before or during their hospital admission
- Patients who have consented to participate in the study

Exclusion Criteria:

- Patients aged below 18 years
- Patients with an implanted pacemaker
- Patients who declined participation through lack of consent

Data Collection:

Upon securing written consent, patient data will be meticulously gathered. This will encompass demographic details such as age, gender, and altitude of residence, along with comprehensive clinical histories detailing symptom duration. The research will also collect pertinent investigations including ECG readings, echocardiogram results, co-morbidities, risk factors, clinical diagnoses, prescribed treatments, advised interventions, and the ultimate patient outcome. These crucial data points will be collected using a pre-structured and validated pro-forma, assuring meticulousness in data recording while upholding the anonymity of participants.

Statistical Analysis:

The compiled data from patient records will undergo rigorous analysis using the Epi Info Version 7.2.1.0 software. Categorical variables will be presented as frequencies and percentages, allowing for a clear understanding of the prevalence and distribution of key factors. The results of this thorough analysis will be eloquently portrayed, both in tabular formats and through graphical representations, offering a comprehensive visualization of the insights gleaned from this study.

ISSN: 0975-3583,0976-2833 VOL14, ISSUE 09, 2023

RESULTS & OBSERVATIONS

In our study, the most common age group was [60-80] years, comprising 47.65% (71 patients). [40-59] years accounted for 34.67% (52 patients), while above 80 years represented 14.67% (22 patients). Patients below 40 years were 3.3% (5 patients). Of the total 150 participants, 71.33% (107) were females, and 28.67% (43) were males. Educational diversity was evident, with 58.67% (88) having no formal education. 20.67% (31) had education up to the 5th standard, 14.67% (22) till the 10th standard, 4.0% (6) till the 12th standard, and 2.00% (3) held college degrees. Patients' geographic origins showcased the center's wide reach. District Shimla had the highest representation at 54% (81), followed by Kullu and Mandi at 8.67% (13) each. Solan (8%), Bilaspur (7.33%), Sirmaur (4%), and Kinnaur (2.67%) were also represented. Lower altitude areas like Hamirpur and Kangra each contributed 2% (3), and Chamba, Una, and Chandigarh had 0.67% (1) representation.

Table-1 Distribution of socio-demographic variables among study participants

Socio-demographic Variables	No of patients	Percentage (%)
Age (years)		
<40	5	3.33
40-59	52	34.67
60-80	71	47.33
>80	22	14.67
Gender		
Male	43	28.67
Female	107	71.33
Education qualifications		
No formal education	88	58.67
5th class	31	20.67
10th class	22	14.67
12th class	6	4.00
College graduate	3	2.00
District/Places		
Lahaul and Spiti	1	0.67
Kinnaur	4	2.67
Sirmaur	6	4
Shimla	81	54
Kullu	13	8.67
Solan	12	8
Chamba	1	0.67
Hamirpur	3	2
Kangra	3	2
Mandi	13	8.67
Bilaspur	11	7.33
Una	1	0.67
Chandigargh	1	0.67
Total	150	100

Out of 150 patients, a substantial 86% (129) had never smoked, 8% (12) were reformed smokers, and only 6% (9) were current smokers during the study. Observations revealed that a majority of patients, specifically 93.29% (139), abstained from alcohol consumption. Among the remaining, 2.68% (4) consumed <7 units/week, 2.68% (4) consumed 7-14 units/week, and 1.34% (2) consumed >14 units/week. Notably, no patients had a history of substance abuse. At presentation, based on history and prior assessments, 28% (42) of patients had Rheumatic Heart Disease, 24.3% (37) had Hypertension, and 18% (27) had Diabetes Mellitus. Additionally, 12% (18) had previously experienced strokes, 8.66% (13) showed signs of Heart Failure, and 9.3% (14) were diagnosed with Cardiomyopathy. Equally, 7.33% (11) of patients had COPD and Coronary Artery Disease each. Nine patients (6%) had Hypothyroidism, while 3.33% (5) exhibited Congenital Heart Disease (ASD). Furthermore, 3.33% (5) were diagnosed with Chronic Kidney Disease, 1.33% (2) had Bronchial Asthma, and an equal number had Hypertensive Heart Disease and concomitant Cardiomyopathy (1.33% each). Only 1 patient was previously diagnosed with Hyperthyroidism.

ISSN: 0975-3583,0976-2833 VOL14, ISSUE 09, 2023

Table-2: Distribution of smoking & alcohol habits and associated disease

Variables	Number of patients	Percentage
Smoker		
Never	129	86 %
Reformed	12	8 %
Current	9	6 %
Alcohol		
None	139	93.29%
<7 units /week	4	2.68%
7-14 units/week	4	2.68%
>14 units/week	2	1.34%
Associated Disease		
Rheumatic heart disease	42	28%
Hypertension	37	24.3%
DM	27	18%
Stroke	18	12%
Cardiomyopathy	14	9.3%
Heart failure	13	8.66%
COPD	11	7.33%
Coronary artery disease	11	7.33%
Hypothyroidism	9	6%
CHD(ASD)	5	3.33%
Chronic kidney disease	5	3.33%
Bronchial asthma	2	1.33%
Hyperthyroidism	1	0.66%
Total	**150**	**100%**

In terms of symptom duration, 49.33% (74) had symptoms for <7 days, followed by 20% (30) for <1 day, and 12.66% (19) with asymptomatic or unconsidered symptoms. Additionally, 10% (15) reported symptoms for 7-30 days, 7.33% (1) for 11 days, and 0.66% (1) for >6 months. Hospitalization-wise, 90% (135) were admitted for 24 hours to 1 week, 10% (15) for 1 week, and 3.33% (5) for <24 hours. Furthermore, 2% (3) were hospitalized for >3 weeks, and 1.33% (2) for 2-3 weeks. Regarding outcomes, 94.67% (142) were discharged, 2.67% (4) left against medical advice, and the same percentage (4) passed away during hospitalization.

Table-3: Distribution of study participants according to duration of symptom, hospital stay and clinical outcome

	Frequency	Percentage
Duration of Symptoms		
Asymptomatic	19	12.66%
<1 day	30	20.00%
<7 days	74	49.33%
<30 days	15	10.00%
30 days-6 months	11	07.33%
>6 months	1	00.66%
Total	150	100%
Duration of Hospital Stay		
<24 hours	5	3.33%
24 hours – 1 week	135	90%
1-2 weeks	15	10%
2-3 weeks	2	1.33%
>3 weeks	3	2%
Clinical Outcome		
Discharged	142	94.6
Death	4	2.67
LAMA	4	2.67
Total	**150**	**100**

In the study, 44% (66) were newly diagnosed with AF, while 56% (84) were follow-up cases. Chief complaints included dyspnea (58.67% - 88 patients), palpitations (34.67% - 52 patients), chest pain (16% - 24 patients), fatigue history

ISSN: 0975-3583,0976-2833 VOL14, ISSUE 09, 2023

(2.67% - 4 patients), and syncope episodes (9.33% - 14 patients). For dyspnea, 41.33% (62) were either asymptomatic or NYHA 1, 28% (42) were NYHA 3, 22.67% (34) were NYHA 4, and 8% (12) were NYHA 2. Palpitation was a complaint in 34.67% (52), and 65.33% (98) did not report it. Chest pain was a chief complaint for 16% (24), with 84% (126) asymptomatic. Of those with chest pain, 2% (3) were NYHA 2, 12% (18) were NYHA 3, and 2% (3) were NYHA 4. Fatigue was present in 2.67% (4), while 97.33% (146) were asymptomatic. Syncope was noted in 9.33% (14), with 90.67% (136) unaffected. Atrial fibrillation with fast ventricular rate occurred in 56.67% (85), controlled ventricular rate in 22% (33), and high ventricular rate (151-200 bpm) in 19.33% (29), with >200 bpm in 2% (3). Cyanosis was observed in 11.33% (17), edema in 29.33% (44), and raised JVP in 30% (45). Murmurs were absent in 48% (72), systolic in 15.33% (23), and diastolic in 36.66% (55) patients.

Table-4: Distribution of study participants according to various clinical sign and symptoms

	Frequency	**Percentage**
Atrial Fibrillation at admission		
Newly diagnosed	66	44
Known case	84	56
NYHA class of dyspnoea		
Absent / 1	62	41.33%
2	12	8%
3	42	28%
4	34	22.67%
NYHA class of palpitation		
Absent/1	98	65.33%
2	4	2.67%
3	41	27.33%
4	7	4.67%
NYHA class of chest pain		
Absent / 1	128	85.33%
2	3	2%
3	18	12%
4	3	2%
NYHA class of fatigue		
Absent/1	146	97.33%
2	2	1.33%
3	1	0.67%
4	1	0.67%
Pulse (Bpm)		
<100	33	22%
100-150	85	56.67%
151-200	29	19.33%
>200	3	2%
Murmurs		
Absent	72	48.00
Systolic	23	15.33
Diastolic	55	36.66

In terms of laboratory findings, 84.6% of patients had normal blood glucose levels, with 10% falling in the 141-200 mg/dl range. About 28.66% had urea levels between 6-24 mg/dl, while 43% had significantly raised urea levels above 40 mg/dl. Creatinine levels ranged from 0.5-0.9 mg/dl for 40.66% of patients, 35.33% had levels between 1-1.5 mg/dl, and 13.33% had levels above 2 mg/dl. For lipid profiles, 90% had serum cholesterol levels below 200 mg/dl, and the majority had triglyceride levels below 150 mg/dl (91.3%). HDL levels were normal for 56% of patients, while 28.66% had lower levels below 45 mg/dl, indicating a less favorable lipid profile. Among patients with known CAD risk, 66% had LDL levels within the range of 60-130 mg/dl. Thyroid function markers showed that the majority had normal TSH (90.66%) and free T3 levels (92.66%). However, 85.33% fell within the reference range for free T4, while 12.66% had levels below 4.5 ng/dl. Coagulation profiles indicated that most patients had Prothrombin Time (PT) and INR within normal ranges, although a small portion had prolonged PT and INR values. NT pro BNP values were elevated (>450 pg/dl) in 91.73% of patients, highlighting potential cardiac stress. High-sensitivity Troponin I (Hs Trop I) levels were raised in 24.29% of patients with suspected CAD.

ISSN: 0975-3583,0976-2833 VOL14, ISSUE 09, 2023

Table 5: Distribution of study participants according to various biochemical and hematological investigations

Investigations	Frequency	Percentage (%)
FBS/RBG (Mg /dl)		
<70	1	0.66
70-140	127	84.66
141-200	15	10
201-300	5	3.33
301-400	1	0.66
401-500	1	0.66
Urea (mg/dl)		
6-24	43	28.66
24-40	42	28
>40	65	43
Creatinine (mg/dl)		
0.5-0.9	61	40.66
1-1.5	53	35.33
1.6-2	16	10.66
>2	20	13.33
Cholesterol (mg/dl)		
<200	135	90
200-239	13	8.6
240	2	1.3
Triglyceride (mg/dl)		
<150	137	91.3
150-199	10	6.66
200-499	3	2
HDL (mg/dl)		
>45	23	15.33
34-45	84	56
<45	43	28.66
LDL (mg/dl)		
<60	49	32.66
60-130	99	66
131-160	2	1.33
TSH (m IU/ml)		
<0.5	7	4.66
0.5-4.5	136	90.66
>4.5	7	4.66
T3 (pg/ml)		
<2.8	9	6
2.8-4	139	92.66
>4	2	1.33
T4 (ng/dl)		
<4.5	19	12.66
4.5-9.8	128	85.33
>9.8	3	2
PT(Seconds)		
<9.4	7	4.66
9.4-12.5	135	90.00
>12.5	5	3.30
Not coagulable	3	2.00
INR (ratio)		
<1.5	107	71.33
1.5-1.99	14	9.33
2-3	15	10.00
>3	11	7.33
Not coagulable	3	2.00
NT pro BNP (pg/dl) (n=55)		

ISSN: 0975-3583,0976-2833 VOL14, ISSUE 09, 2023

Not raised	2	3.64
>125	2	3.64
>450	51	91.73
Hs Trop I (ng/dl) (n=70)		
Normal	53	75.71
Raised	17	24.29

In the study, 10.33% had Right Axis Deviation, while 14.66% had Left Axis Deviation. Right Atrial Enlargement was noted in 13 patients (8.67%), and Left Atrial Enlargement in 8 patients (5.33%). Right Ventricular Enlargement was seen in 8 patients (5.33%), and Left Ventricular Enlargement in 16% of patients. ST segment elevation and depression were each observed in 1.33% of patients. Regarding cardiac conditions, 36.66% had Rheumatic Heart Disease (RHD), 6.66% had Coronary Artery Disease (CAD), 4% had Cardiomyopathy (CMP), and 3.33% had Congenital Heart Disease (CHD). Among patients who underwent 2D echo, 58.97% had enlarged Left Atrium (LA), and 17.98% showed Left Ventricular Hypertrophy (LVH). Left Ventricular end-diastolic diameter (LVed) was above 32 mm/m2 for 81.33% and above 19 mm for 78.95%. Ejection Fraction (EF) revealed 32.32% with normal (above 60%), 24.24% with preserved (50-60%) EF, 24.24% with mildly reduced (40-50%) EF, and 19.19% with significantly reduced (<40%) EF. In chest X-rays, 69.23% showed Cardiomegaly among 65 patients, while 30.77% didn't display indications of cardiomegaly.

Table 6: Distribution of study participants according to ECG, ECHO and X-Ray findings

Findings	Frequency	Percentage (%)
ECG Findings		
Right axis deviation	16	10.66
Left axis deviation	22	14.66
Right atrial enlargement	13	8.66
Left atrial enlargement	8	5.33
Right ventricular enlargement	8	5.33
Left ventricular enlargement	24	16.00
ST segment- elevated	2	1.33
ST segment –depressed	2	1.33
Q wave	1	00.66
2D Echo diagnosis		
RHD	55	36.66
CMP	6	4.00
CAD	10	6.66
CHD	5	3.33
ECHO parameters		
LA diameter		
Normal	32	41.03
Dilated	46	58.97
LVH		
Absent	73	2.02
Present	16	17.98
LVed(mm/m^2)		
<19	4	5.33
19-32	10	13.33
>32	61	81.33
LVes (mm)		
<16	6	7.89
16-19	10	13.16
>19	60	78.95
EF (%)		
<40	19	19.19
40-50	24	24.24
50-60	24	24.24
>60	32	32.32
CXR: Cardiomegaly (n=65)		
No	20	30.77
Yes	45	69.23

ISSN: 0975-3583,0976-2833 VOL14, ISSUE 09, 2023

During hospitalization and at discharge, patients received various treatments. Beta blockers were prescribed to 82% of patients, Calcium channel blockers to 12%, ACE inhibitors to 22%, and ARBs to 14%. Diuretics were given to 55.33%, Digoxin to 18.66%, ARNI to 7.33%, and SGLT2 inhibitors to 28.66%. Low molecular weight heparin was administered to 24% of patients. Among oral anticoagulants, Warfarin was prescribed to 41.33%, Rivaroxaban to 23.33%, Dabigatran to 8%, and Acitrom to 1.33%. Oxygen therapy was provided to 23.33% of patients. Among the 11 patients who underwent Cardioversion, 81.81% (9 patients) successfully reverted to sinus rhythm, while 18.18% (2 patients) did not achieve hemodynamic stability.

Table 7: Distribution of study participants according to Treatment Received and Cardioversion

Treatment received	Frequency	Percentage (%)
BB	123	82.00
CCB	18	12.00
ACEi	33	22.00
ARB	21	14.00
Diuretic	83	55.33
MRA	45	30.00
Diuretic	83	55.33
Digoxin	28	18.66
ARNI	11	7.33
SGLT2i	43	28.66
Warfarin	62	41.33
Rivaroxaban	35	23.33
Dabigatran	12	08.00
Acitrom	2	1.33
LMWH	36	24.00
Oxygen	38	23.33
Cardioversion		
No	139	92.66
Reverted	9	6.00
Not reverted	2	1.33
Total	150	

The study revealed that 78% of patients had Persistent AF, while 22% had Paroxysmal AF. Conditions observed included Heart Failure in 39.33%, Coronary Artery Disease in 13.33%, Stroke in 20%, and Rheumatic Heart Disease in 36%. Hypertension affected 22%, with 8% developing Hypertensive Heart Disease. Diabetes was present in 18%, Thyroid Dysfunction in 13, among which 7.33% had Hypothyroidism and 1.33% had Hyperthyroidism. Chronic lung diseases included 14% with Chronic Obstructive Pulmonary Disease and 1.33% with Bronchial Asthma. Cardiomyopathies comprised 6% with Dilated Cardiomyopathy, 2% with Restrictive Cardiomyopathy, and 0.66% with Hypertrophic Cardiomyopathy. Other findings were 3.33% with Atrial Septal Defect, 3.33% with Cardiac Amyloidosis, and 4.66% with Chronic Kidney Disease. Interventions were performed on 17 patients, including mitral valve repair, septal defect closure, and tumor resection. Among AF patients, 22% had pulmonary artery/venous hypertension, and 2% developed Ventricular Tachycardia. Dyspnea status at discharge/LAMA showed 61.64% without dyspnea, 22.60% with NYHA 1, 13.01% with NYHA 2, and some with NYHA 3.

Table 8: Distribution of study participants according to Diagnosis and status at Discharge

Clinical Diagnosis (Type of AF)	Frequency	Percentage (%)
Paroxysmal AF	33	22.00
Persistent AF	117	78.00
Diagnosis at discharge		
Heart failure	59	39.33
RHD	55	36.00
PAH/PVH	33	22.00
HTN	33	22.00
Stroke	30	20.00
DM	27	18.00

ISSN: 0975-3583,0976-2833 VOL14, ISSUE 09, 2023

COPD	21	14.00
Coronary artery disease	20	13.33
Post intervention	17	11.33
HHD	12	08.00
Hypothyroidism	11	07.33
Dilated CMP	9	06.00
Pneumonia	9	06.00
Sepsis	8	05.33
CKD	7	04.66
ASD	5	03.33
Cardiac Amyloidosis	5	03.33
OSA	3	02.00
Restrictive CMP	3	02.00
VT	3	02.00
Acute alcohol	2	01.33
Bronchial Asthma	2	01.33
UTI	2	01.33
Hyperthyroidism	2	01.33
Hypertrophied CMP	1	00.66
Sick sinus syndrome	1	00.66
PTE	1	00.66
Drug induced	1	00.66
Status at Discharge (Dyspnoea)		
Absent	90	61.64%
NYHA1	33	22.60%
NYHA2	19	13.01%
NYHA3	4	2.74%

DISCUSSION

The present study explored the demographic characteristics, clinical presentations, comorbidities, treatment strategies, and outcomes associated with AF.

The investigation revealed that AF was most prevalent (47.33%) among individuals aged 60-80 years, with women constituting 71.33% of the cases. These findings were consistent with a study by Athar AM *et al* from St John's Medical College, Bengaluru, Karnataka.[11] This alignment could be attributed to increased life expectancy and socio-economic factors, along with the predominance of Rheumatic Heart Disease in Northern India, unlike Western regions where Hypertension is a leading cause of AF.

Regarding educational background, 56.67% of patients had received no formal education, reflecting socio-economic status and limited healthcare access. However, significant improvements in the health sector have enhanced access to healthcare centers and consequently diagnosis and treatment.[11] Interestingly, the study found that a higher number of AF cases (54%) originated from within Shimla, potentially due to easy access to nearby healthcare facilities.

Risk factors were investigated in relation to AF. The study identified associations between AF and smoking, alcohol consumption, hypertension, diabetes, and thyroid disorders. The study also delved into the link between AF and smoking-induced vasospasm and alcohol-related arrhythmias and inflammation.[12] Furthermore, the study revealed that thyroid disorders were prevalent in approximately 9% of the cases, a finding in alignment with other studies.[13]

Symptomatic presentation was common among AF patients, with symptoms such as dyspnea, palpitations, chest pain, and syncope. The high prevalence of symptomatic patients could be attributed to delayed presentation due to a lack of extensive research and proactive screening [58]. Additionally, heart failure was a significant finding, as indicated by the New York Heart Association (NYHA) classification and clinical parameters.[14]

The study emphasized the connection between AF and valvular diseases, particularly Rheumatic Heart Disease (RHD). The presence of left ventricular hypertrophy (LVH) and left axis deviation on electrocardiograms (ECGs) indicated increased risk factors and potential predictive capabilities.[15]

Treatment strategies for AF encompassed beta-blockers for rate control and personalized anticoagulation plans based on

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individual patient profiles. However, inadequate monitoring of International Normalized Ratio (INR) levels resulted in suboptimal anticoagulation and consequently impacted stroke risk.[16] The management of heart failure involved various agents tailored to each patient's condition.[11]

In terms of outcomes, the study highlighted that cardioversion was successful in the majority of patients (81.81%). Mortality rates were relatively low, underscoring the importance of consistent monitoring, adherence to treatment plans, and tailored interventions.[11]

LIMITATIONS:

The study acknowledges several limitations that deserve consideration. The geographical constraints of the study setting, along with the socioeconomic disparities and limited access to medical care, could introduce selection bias and limit the generalizability of the findings. The cross-sectional design prevents the establishment of causal relationships between variables. Furthermore, the study's reliance on retrospective data may introduce inherent limitations in data quality and accuracy.

CONCLUSION:

In conclusion, this study sheds light on the clinical profile of AF in a tertiary care setting, offering valuable insights into patient demographics, clinical presentation, associated comorbidities, treatment approaches, and outcomes. The findings underscore the need for tailored and comprehensive management strategies for AF patients, considering the interplay of various risk factors and comorbidities. Addressing the challenges associated with AF requires a multidisciplinary approach that encompasses education, early detection, optimized medical therapy, and regular follow-up, aiming to improve patients' quality of life and overall prognosis.

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