Atrial Fibrillation among Jordanian Patients

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Abstract

To estimate the rate of atrial fibrillation (AF) among Jordanian patients, and to identify the clinical data of signs and symptoms, diagnostic criteria, complications, prognosis and management. A cross-sectional study involving total- 126-AF patients who admitted to Prince Hamzah Hospital with diagnosis of AF. The study was begun from January 2018 to July 2019. A non-probability (Convenience) sample of (126) patients with atrial fibrillation who are admitted to the cardiac unit at Prince Hamzah Hospital. A special standardized question form is designed and to be filled by researcher after patient signing his consent paper. The study included (126) Atrial Fibrillation Jordanian patients. The result find the age is important risk factor for atria patient. The high percentage of patients distributed among old age group. AF was associated with chronic diseases, such as hypertension (73.01%). In spite of the fact that atrial fibrillation is expected to be an epidemic disease within the next 20-30 years, no clear preventive programs especially for those who have high risk like diabetes mellitus, hypertension, ischemic heart disease and overweight regarding education and changing lifestyle to reduce the incidence of atrial fibrillation.

Keywords: *Atrial Fibrillation, Jordanian, Patients*

Introduction

Atrial fibrillation (AF) is the most common arrhythmia encountered in clinical practice and accounts for 1/3 of hospital admissions for cardiac rhythm disturbances. Recent worldwide epidemiological data have reaffirmed the fact that AF is a global epidemic and has adverse effects on long term morbidity and mortality. Although the effect of AF on the quality of life and survival has been well documented in the western population[1,2,3,4]. In addition, AF is frequently associated with disturbing symptoms and very important socioeconomic problems, such as permanent disability, cognitive disturbance, hospitalization, and absence from work[2].

AF is a supraventricular tachyarrhythmia characterized by uncoordinated atrial activation leading to ineffective atrial contraction. AF represents an important clinical problem with related to significant health and social issues. It can be complex and challenging for clinicians to manage. It can also lead to frequent hospitalizations, hemodynamic abnormalities, and thromboembolic events resulting in significant morbidity and mortality and impact negatively on the patients' quality of life[3,5,6].

The number of AF patients has been increasing worldwide. A study from New Zealand in 1999 reported 10.4% as the prevalence of AF admissions. The prevalence of AF increases with aging. The Feinberg analysis, that based on other four epidemiological studies, indicated that the prevalence of AF was increased with

age by 2.3% and 5.9% in the population aged >40 years and >65 years, respectively. The further increase in the prevalence and the incidence of AF with the aging of the population are predicted in the future[3].

AF is most commonly classified according to its temporal pattern. Paroxysmal AF is a self-terminating AF episode lasting less than 7 days, and usually less than 48 hours. Sustained AF, lasting longer than 7 days and less than a year, is classified as persistent. Where AF persists beyond a year, it is classified as permanent, irrespective of the fact that there may have been temporary resolution after cardioversion[1]. Paroxysmal AF may degenerate into more frequent paroxysms, or a sustained form of AF, which in turn may degenerate into permanent AF. 'Lone AF' is largely a diagnosis of exclusion and refers to AF occurring in the absence of concomitant cardiovascular disease (eg, hypertension), structural heart disease (normal echocardiogram), with a normal ECG and chest X-ray[1,7].

AF has many etiologies, and it may develop in the presence of many controllable and non-controllable risk factors. Chronic diseases such as certain heart diseases, hypertension (HTN), diabetes mellitus (DM), and hyperthyroidism are considered as controllable risk factors. Congenital heart diseases, aging, and family history are considered as non-controllable risk factors. At present, the prevalence of both chronic HF and AF is increasing since these two conditions share common risk factors. As a risk factor, heart failure (HF) comes at the second place after HTN. A study of electrical ALternans in Patients with HF (ALPHA) shows the AF prevalence exceeds 20% in HF patients thus demonstrates an association between AF and chronic HF[3].

Several different treatment options exist for management of AF. Management may include medication to restore and maintain sinus rhythm, medications to obtain rate control, and anticoagulants. With proper management of AF the risk of stroke and other heart related problems can be significantly decreased[8,9].

Methodology

Design of the Study:

A cross-sectional study involving total 126 AF patients who admitted to Prince Hamzah Hospital with diagnosis of AF.

The Sample of the Study:

A non-probability (Convenience) sample of (126) patients with atrial fibrillation who are admitted to the cardiac unit at Prince Hamzah Hospital.

The Study Instrument:

A special standardized question form is designed and to be filled by researcher after patient signing his consent paper. It involves information's about the patients such as general demographic criteria including age, sex, and clinical criteria, signs, symptoms, type of atrial fibrillation, risk factors, diagnostic criteria and management.

Data Analyses

In order to achieve the early stated objectives, the data of the study were analyzed through the use of statistical package of social sciences (SPSS) version 19 through descriptive and inferential statistical analyses. The statistical data was analyzed by using descriptive statistics (Frequency and Percentage).

Results

Table (1): Demographic Characteristic of Atrial Fibrillation patients:

Groups		Frequency (Total 126)	Percentage (%)
Age (years)	≤ 39.00	1	0.8
	40.00 - 45.00	3	2.4
	46.00 - 51.00	5	4.0
	52.00 - 57.00	10	7.9
	58.00 - 63.00	13	10.3
	64.00 - 69.00	18	14.3
	70.00 - 75.00	40	31.7
	76.00 - 81.00	23	18.3
	≥82.00	13	10.3
	Total	126	100.0
Gender	Male	51	40.5
	Female	75	59.5
	Total	126	100.0
Type of Atrial Fibrillation	Permanent (Chronic)	113	89.7
	Paroxysmal	9	7.1
	Lone	4	3.2
	Total	126	100.0
Smoking	Yes	118	93.7
	No	8	6.3
	Total	126	100.0

The study included (126) Atrial Fibrillation Jordanian patients. The result in table (1) shows the high percentage of study subject at age group 70-75 (31.7%). In addition, this table shows the majority of study subjects were female 75 (59.5%). Concerning to the type of atrial fibrillation, the study finding show that 113 (89.7%) of study subjects have permanent (chronic) atrial fibrillation type. Finally in this table the result indicate that 118 (93%) patients have yes smoking. The age is important risk factor for atria patient. The high percentage of patients distributed among old age group.

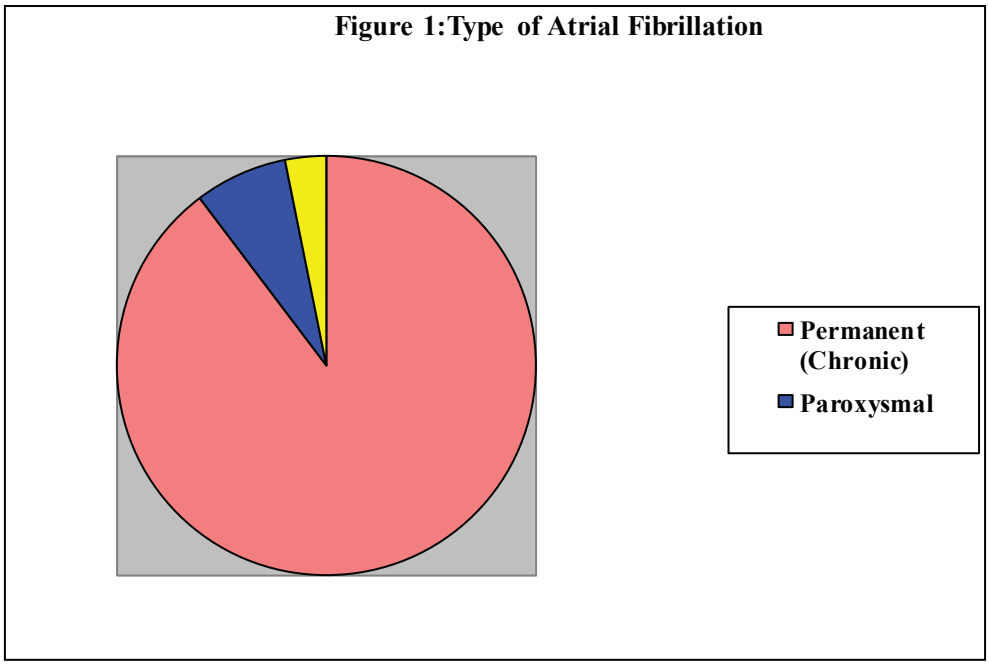
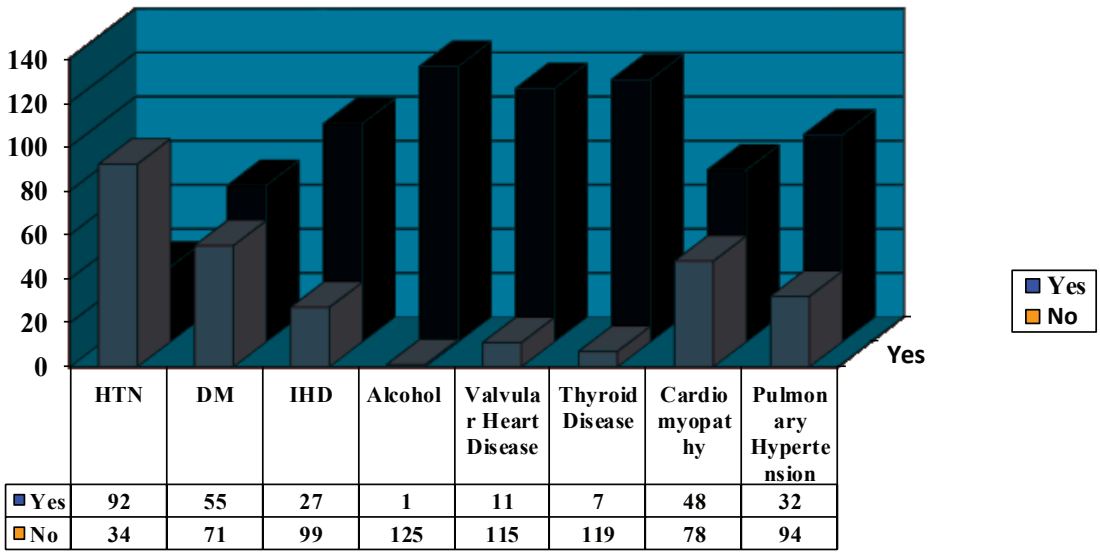


Figure 1: Distribution of study subjects by type of atrial fibrillation.



	HTN	DM	IHD	Alcohol	Valvular Heart Disease	Thyroid Disease	Cardiomyopathy	Pulmonary Hypertension
Yes	92	55	27	1	11	7	48	32
No	34	71	99	125	115	119	78	94

Figure 2: Distribution of patients by etiology of atrial fibrillation, the figure shows that HTN is highest percentage (73.01%) as an etiology of atrial fibrillation. While alcohol is the lowest percentage (0.8%) that cause for atrial fibrillation.

Table (2): Clinical and echocardiographic characteristics of AF patients:

Symptoms		Frequency (Total 126)	Percentage (%) (Total 100.0)
Dyspnea	Yes	75	59.5
	No	51	40.5
Chest Pain	Yes	2	1.6
	No	124	98.4

Palpitation	**Yes**	20	15.9
	No	106	84.1
Thrombo Embolic	**Yes**	7	5.6
	No	119	94.4
Sepsis	**Yes**	5	4.0
	No	121	96.0

Table (2) show the symptoms of atrial fibrillation patients. Dyspnea is most common symptom 75 (59.5%) among (chest pain, palpitation, thromboembolic and sepsis) in atrial fibrillation patient.

Table (3): The prevalence of patients' medical management:

Management \ DC shock		
	Frequency (Total 126)	Percentage (%) (Total 100.0)
Yes	1	0.8
No	125	99.2
Management \ Anticoagulation		
Yes	52	41.3
No	74	58.7
Management \ Antiplatelet		
Yes	70	55.6
No	56	44.4
Management \ Antiarrhythmic		
Yes	7	5.6
No	119	94.4

Table (3) shows anticoagulants and anti-arrhythmic taking by atrial patient. The study finding indicate that the antiplatelet is most common management uses from atrial fibrillation patients.

Discussion

This study demonstrates that the age of Jordanian AF patients highly distributed at age group 70-75 (31.7%)**,** also the result finding the atrial fibrillation increase with age as a result show that the high percentage of atrial fibrillation patients distributed among old age group. This result come along with (Zhou and Hu, 2008), they mentioned that " the age standardized prevalence of AF in the general Chinese population was 6.5 per 1000 people, and that it increased with age. Also we confirm that AF is a disease that is largely prevalent in the elderly in the general Chinese population, with the great

majority of cases present among people aged 60 years and above" [4]. Also Alharbi and Alsuhaibani, 2018, in their study "Atrial fibrillation among adult Saudi patients with chronic heart failure: Tertiary center experience" state that the increasing occurrence of various chronic and cardiovascular diseases with aging which contribute to HF and eventually AF[5].

According to type of atrial fibrillation our result show the common type is permanent (chronic) atrial fibrillation. This result supported by Johansson, *et al.*, 2017 They reveals that "permanent AF and persistent AF were more common. This may be explained by use of a longer time period for the classification of AF (up to six months from the first diagnosis of AF compared to six weeks); this gave us more extensive data from the patient records and more data from the clinicians' assessments of the patients for classifying the type of AF"[10].

In our study the result find that the common cause for atrial fibrillation are hypertension have higher percentage among etiology factors of atrial fibrillation. Alharbi and Alsuhaibani, 2018, said that the HTN considered one of the most prevalent causes of AF. In this study, the development of AF was more within HTN patients[5].

About Atrial fibrillation patient medication the result of this study show antiplatelet management (aspirin) is commonly prescribed by doctor for AF patients because play important role in decrease mortality of AF patient. This result agree with (Gersh, *et al*., 2011; Karamichalakis, *et al*., 2015; Rajan, *et al.,* 2019) all them mentioned that the " Aspirin reduces the risk of stroke by 25% in AF patients and it prevents mostly non-cardiogenic embolic strokes"[11-13].

Conclusions

Most of Jordanian patients are affected with HTN as a cause for atrial fibrillation, and the common type is atrial fibrillation permanent (chronic),while most of these patients didn't take anti-arrhythmic drugs, anti-coagulants and, DC shock through their treatment.

Recommendations:

Base on the result of the present study the researcher recommended are following:

1. Comprehensive understanding of AF epidemiology is necessary to establish preventive and management strategies for AF and consequently improve clinical outcomes of AF patients in the hospitals.

2. A guideline need to be prepared MOH for medical staff to improve their knowledge and training toward management of patients with atrial fibrillation

3. Health education and public policies are urgently required for Jordanian elderly people.

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Conflict of Interest: None to declare.

Ethical Clearance: All experimental protocols were approved under the Department of Internal Medicine and Family Medicine and all experiments were carried out in accordance with approved guidelines.

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