

## Presentation and Management of Cardiac arrhythmias ... an analysis of 75 referrals from Family Medicine Practitioners

Manzoor Mahmood<sup>1</sup>, S.A. Mahmood<sup>2</sup>, Md. Zahid Hossain<sup>1</sup>, M.A. Quayum<sup>2</sup>, A Qader<sup>3</sup>, Hasibur Rahman<sup>4</sup>  
K.S. Rahman<sup>5</sup>, Md. Khurshed Ahmed<sup>1</sup>, S.M. Mustofa Zaman<sup>1</sup>, Md. Abu Salim<sup>1</sup>, Md Harisul Hoque<sup>1</sup>

<sup>1</sup>Department of Cardiology, Bangabandhu Sheikh Mujib Medical University, Dhaka

<sup>2</sup> Bangladesh Institute of Family Medicine & Research, Dhaka

<sup>3</sup>Senior Family Physician, Dhaka

<sup>4</sup> National Institute of Disease of the Chest & Hospital, Dhaka

<sup>5</sup> United Hospitals, Dhaka

### Address for correspondence

Dr. Manzoor Mahmood, Associate Professor of Cardiology, Bangabandhu Sheikh Mujib Medical University, Dhaka

E-mail : m\_mahmood65@yahoo.com

### Abstract

Cardiac arrhythmias often present to family physicians with diverse clinical manifestations. This retrospective observational study was carried out in a private cardiology clinic in Dhaka from July 2004 to December 2008. A total of 1257 patients were referred from family physicians in the locality. 75 (5.96%) patients were diagnosed as having cardiac arrhythmia by ECG. Various types of atrial arrhythmias are more common than ventricular arrhythmias (60% vs 40%). Atrial fibrillation (N=18) and PVC (N=17) are the 2 commonest arrhythmias found in this study. This study identifies the clinical presentation, possible aetiology and management of patients having cardiac arrhythmias.

Palpitation (46.66%) and asymptomatic ECG changes (34.66%) were the 2 most common reasons for referral. Most of the patients could be managed on a out-patient basis. Most arrhythmias like 1<sup>st</sup> degree heart block, PAC & isolated PVC, RBBB, Sinus bradycardia were asymptomatic & did not need any further treatment except assurance & anxiolytics. Other arrhythmias like atrial fibrillation, LBBB, bifascicular or advanced heart block, SSS & SVT needed further evaluation.

This article particularly focuses on the general approach of family physicians while dealing with patients with cardiac arrhythmias.

**Key words :** cardiac arrhythmias, family medicine practice

### Introduction:

Cardiac arrhythmias often present to family physicians with diverse clinical manifestations. Presentation of arrhythmia can range from asymptomatic ECG changes, palpitation, dizziness/ presyncope, to life threatening conditions like syncope and shock. This retrospective observational study was carried out in a private cardiology clinic in Dhaka from July 2004 to December 2008. A total of 1257 patients were referred from family physicians in the locality. 75 patients (5.96%) were diagnosed as having cardiac arrhythmia by ECG. The aim of the study was to find the frequency, clinical present, possible aetiology and management of cardiac arrhythmias in family medicine practice. There is considerable dilemma and apprehension among the family physicians with regard to the management of these patients. However there is some general principle in approaching those patients with cardiac arrhythmias bearing in mind that most of the arrhythmias are benign, self limiting and does not need any medication.

### Material and Method

This retrospective observational study was carried out in a private cardiology clinic in Dhaka from July 2004 to December 2008. A total of 1257 patients were referred from family physicians in the locality. Arrhythmia was diagnosed by ECG. All the patients had echocardiography to identify any structural heart disease. Ancillary tests were done to identify any precipitating, causative and risk factors. Detailed history including drug history was taken.

### Result

Among the 1257 patients referred by family physicians, 75 patients were diagnosed as having cardiac arrhythmias by ECG. The mean age was 55 years (range 23-76 years). Male: female =4.35:1. Atrial fibrillation (N=18) and PVC (N=17) are the 2 commonest arrhythmias found in this study. The number and frequency of different types of arrhythmias are listed in table 1

**Table-1 shows the various types of cardiac arrhythmias and their frequency (N = 75)**

Arrhythmia	Number	Frequency /Percent
Premature atrial complex (PAC)	2	2.66
Atrial fibrillation	18	24
Supraventricular tachycardia (SVT)	2	2.66
WPW syndrome	2	2.66
Sinus bradycardia	12	16
Sinus tachycardia	1	1.33
Sinus node disease	3	4
Premature ventricular complex (PVC)	17	22.6
1 <sup>st</sup> degree heart block	1	1.33
Right bundle branch block (RBBB)	7	9.33
Left bundle branch block (LBBB)	2	2.66
Bifascicular block	3	4
Permanent Pacemaker implanted (PPM)	5	6.66
<b>Total</b>	<b>75</b>	<b>100</b>

Various types of atrial arrhythmias are more common than ventricular arrhythmias (60% vs. 40%). An analysis of the frequency of cardiac arrhythmias and conduction disturbances in Spain revealed 26% patients had atrial fibrillation, SVT 3%, ventricular arrhythmias 2%, AV block or sinus node dysfunction 3%, intraventricular block 8%.<sup>1</sup> Martins JL and co-authors in another study in UK revealed 21% patient had atrial fibrillation, 13% SVT, 4% conduction disturbances & 2% PVC.<sup>2</sup>

**Table 2: Reasons for referral/ Presentation of various arrhythmias**

Reason for referral/ Presentation	Number of patients/ frequency (percentage)
Palpitation	35 ( 46.66 )
Asymptomatic ECG changes	26 (34.66)
Presyncope/dizziness	10 (13.33)
Chest pain	9 (12)
Dyspnoea	1 (1.33)
PPM follow up	5 (6.66)
Associated diseases (HT/ HCM)	20 (26.66)

Palpitation followed by asymptomatic ECG changes is the 2 most common presentations for referral by family practitioners. Of the symptoms that suggest an arrhythmia, palpitation is the most common.<sup>3</sup> Some patients had multiple presentation. Results in parenthesis indicate percentage.

**Discussion**

In the following section presentation and management of individual arrhythmia has been discussed and possible aetiology and associated disease has been mentioned. There is no one single symptom that is characteristic of an arrhythmia abnormality and they present in a variety of ways.<sup>4</sup>

2 patients had PAC. They presented with palpitation. 1 of them was associated with hypertension. No drugs were required except reassurance. Hypertension was treated with B-blocker.

2 patients had SVT. They presented with palpitation & had recurrence. 1 of them was treated with IV adenosine in CCU & was given oral verapamil for prophylaxis. The other one was treated with oral verapamil for prophylaxis.

2 patients had WPW syndrome. They had history of recurrent palpitation. They were on oral verapamil but were referred for ECG changes. The patients were advised for electrophysiologic study (EPS).

12 patients had sinus bradycardia. 8 patients were getting B-blocker due to hypertension & therefore no further treatment was required. 3 of them presented with presyncope. Holter monitoring was advised for them. 1 patient had associated ischemic heart disease (IHD).

1 patient had sinus tachycardia due to thyrotoxicosis. He was treated with B-blocker and referred to endocrinologist.

3 patients had sinus node disease. They presented with dizziness/presyncope. They were admitted in BSMMU and PPM was implanted. Presentation with syncope is a relatively frequent occurrence and in one study represents 3% of emergency department visits.<sup>5</sup>

18 patients had atrial fibrillation. They had palpitation. 6 patients had IHD, 5 had hypertension (HT) & in 7 patients no cause was found. All of them were treated with heart rate control drugs like B-blocker, calcium channel blocker or digoxin if heart failure was present. Conversion to sinus rhythm was not done. All of them got aspirin for anti thrombotic prophylaxis except to 2 patients who got warfarin. Warfarin could not be given to some patients even it was indicated because of difficulty in follow up by INR. Despite abundant clinical evidence that warfarin is an effective treatment for the prophylaxis of thrombo-embolism in these patients, oral anticoagulation remains suboptimal in both primary and secondary care, with treatment rates of 21-50%.<sup>2</sup> Treatment of IHD & control of hypertension by drugs was carried out by B-blocker & other drugs,

1 patient had 1<sup>st</sup> degree AV block in ECG who was asymptomatic. No treatment was needed except he had hypertension which was controlled by drugs.

7 patients had RBBB of which 5 were asymptomatic. 1 patient had IHD & 1 had presyncope. Holter monitoring was advised who had presyncope.

2 patients had LBBB. 1 of them had myocardial infarction detected on echo & 1 had left ventricular systolic dysfunction. They were treated accordingly.

Bifascicular block was present in 3 patients. 1 of them had HT & the other 2 patient were asymptomatic. They were advised for follow up.

PVC was present in 17 patients. 5 of them had associated HT, 4 had IHD, 1 had hypertrophic cardiomyopathy (HCM). 3 patients had PVC due to drugs (aminophylline, digoxin, salbutamol). In 4 patients no cause was apparent. The causes were treated, causative drugs withdrawn & B-blocker like metoprolol or bisoprolol was given. 15 patients responded favourably.

Finally 5 patients had implanted PPM. They were referred for follow up. All had VVI PPM. They were functioning normally but 3 of them had occasional palpitation & dizziness. They were reassured.

General approach for family physicians dealing with patients with arrhythmias is mentioned below:

- When a patient presents with arrhythmia the family physician should determine the haemodynamic stability of the patient by determining the pulse/ heart rate, rhythm, BP, heart & lung auscultation to find murmur, additional sound to indicate heart failure, the presenting complaints of the patient. Assure the patient, take a drug history & arrange an ECG. Depending upon ECG further evaluation like echo can be advised.
- Advanced tests include Holter monitoring, ETT & EPS which are usually under the domain of cardiologist.

- Most of the anti arrhythmic drugs are pro-arrhythmic. Therefore those drugs are cautiously prescribed by cardiologists bearing in mind the risk-benefit ratio as applicable to the individual patient.

### Conclusion

This study revealed the following points:

- Atrial arrhythmias were generally benign than ventricular arrhythmias.
- Most arrhythmias like 1<sup>st</sup> degree heart block, PAC & isolated PVC, RBBB, Sinus bradycardia were asymptomatic & did not need any further treatment except assurance, anxiolytics & B-blocker in tachyarrhythmias. Other arrhythmias like atrial fibrillation, LBBB, bifascicular or advanced heart block, SSS & SVT needed further evaluation.
- Finally the dictum goes “Do not treat the ECG, treat the patient”.

### References

1. Castroveijo EVRD, Bellido JM, Cabezas CL et al. Analysis of the frequency of cardiac arrhythmias and conduction disturbances from a health-care perspective. *Revista Espanola de Cardiologia*. 2005;68 (6):657-65
2. Martins JL, Fox KF, Wood DA et al. Rapid access arrhythmia clinic for the diagnosis and management of new arrhythmias presenting in the community: a prospective, descriptive study. *Heart*. 2004;90 (8):877-81
3. Oswald N, Bateman H. Treating individuals according to evidence: why do primary care practitioners do what they do? *J Eval Clin Pract*. 2000;6 (2):139-48.
4. Summerton N, Mann S, Rigby A, Petkar S, Dhawan J. New onset palpitations in general practice; assessing the discriminant value of items within the clinical history. *Fam Pract*. 2001;18 (4):383-92
5. Kapoor WN. Evaluation and management of the patient with syncope. *JAMA*. 1992;268 (18):2553-60