

# Mitral Stenosis Associated Atrial Fibrillation and Use of Anticoagulation

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## ABSTRACT

**Objective:** To determine the anticoagulation practice in local population suffering of mitral stenosis and atrial fibrillation that are actually high risk for thrombo embolism and are in fact candidates for anticoagulation

**Study Design:** Descriptive / cross sectional study

**Place and Duration of Study:** This study was conducted at Cardiovascular Department Lady Reading Hospital Peshawar from 1.12.2014 to 30.10. 2015.

**Materials and Methods:** Study comprised 100 patients with atrial fibrillation (AF) and mitral stenosis were studied. All patients visiting OPD with EKG evidence of atrial fibrillation and echocardiography evidence of mitral stenosis were included.

**Results:** Mean age was 59.7±13.7 years. Male were 39% (n=39). Only 25% (n=25) patients were adequately treated with anticoagulant therapy using warfarin. Most of the patients (34%) were on dual antiplatelet therapy. Factors associated with underutilization of anticoagulant therapy were, patient preference 40%, older age of 65 and above 15%, monitoring issue 23%, affordability 7% and prior complications due to anticoagulation therapy in 15%.

**Conclusion:** Atrial fibrillation is still an undertreated condition and most patients with AF and mitral stenosis are still deprived of benefits of anticoagulant therapy. Majority of these high risk patients are treated with antiplatelet therapy.

**Key Words:** Atrial fibrillation, Dual antiplatelet therapy, Warfarin

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## INTRODUCTION

Atrial fibrillation is a major risk factor for repeated thromboembolism. Patients with AF are reported to have a five-fold increased risk of stroke.<sup>1</sup> The problem is worse in older population.<sup>2</sup> As compared to other known risk factors for stroke (hypertension, heart failure, and coronary heart disease), AF has the strongest association.<sup>1</sup> Warfarin is less commonly used in Asian population due to difficulty in achieving optimal anticoagulation and higher incidence of hemorrhagic stroke in Asian communities. Instead, antiplatelet therapy is commonly used in these patients which is neither effective nor safe in these individuals.<sup>3</sup> Stroke secondary to atrial fibrillation is usually due to thrombi formed in the left atrium and left atrial appendage embolize to cause ischemic stroke.<sup>3</sup> Patients with Mitral stenosis and atrial fibrillation is consider high risk for stroke and thrombo embolism and

according ESC and ACC/AHA guidelines for atrial fibrillation, all patients with mitral stenosis and atrial fibrillation should be properly anti coagulated in the form of warfarin.<sup>4</sup> Oral anticoagulation (OAC) significantly reduces the risk of stroke among these high risk patients.<sup>4,5</sup>

Most commonly used therapy for patients with valvular and non valvular AF is in the form of warfarin. Warfarin is having narrow therapeutic window and is associated with increased risk of bleeding which limits its use in clinical practice.<sup>6-8</sup> Difficulties associated with warfarin therapy is the main cause of its under use<sup>9,10</sup> and many patients are treated with aspirin, despite this drug being minimally effective and conferring a risk of bleeding similar to warfarin.<sup>11,12</sup> In the UK, a survey of 1857 patients in (GRASP-AF) audit tool reported that 34% of patients with a CHADS2 score  $\geq 2$  did not receive OAC therapy.<sup>5</sup> Currently before putting patients on OAC, risk stratification is done for stroke using a validated risk stratification tool<sup>4,5</sup>, and new guidelines recommend using the CHA2DS2 - VASc score. Irrespective of CHADS VASc score, patients with mitral stenosis should be started on anticoagulation therapy.<sup>13</sup>

In spite of clear recommendation for anticoagulation still majority of patients are deprived of this therapy. Lack of knowledge of current guidelines, concern for the risk of bleeding, advance age, neurological deficits, dementia, and previous bleedings are suspected to influence the low rates in the usage of OAC in the clinical practice.<sup>14</sup>

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The aim of this study is to find out the practice of anticoagulation in these high risk people and various factors responsible for under treatment of patients with atrial fibrillation in the form of anticoagulation. This will help to address those issues which are responsible for failure of practicing anticoagulation in our local population and to find out solution for improving guideline based practice.

## MATERIALS AND METHODS

This is descriptive cross sectional study conducted at Cardiovascular Department Lady Reading Hospital Peshawar from 1.12 .2014 to 30. 10. 2015. Sampling technique was non probability consecutive sampling. Patients visiting OPD with EKG evidence of AF and echocardiographically proved Mitral stenosis were included in the study. All patients after informed consent were included in the study. Detail History was taken about the onset, duration, symptoms and treatment of AF and mitral stenosis. Data was collected and recorded on pre specified proforma. Data was analyzed using SPSS version 16 Numerical variables like age was presented as mean  $\pm$  standard deviation. Categorical variables were expressed as frequency and percentages.

## RESULTS

A total of 100 patients with atrial fibrillation and mitral stenosis were studied. Mean age was  $59.7 \pm 13.7$  years. Male were 39% (n=39) while 61% (n=61) were female. Out of total patients only 25% patients were receiving warfarin therapy irrespective of whether target INR achieved or not. Most of patients were receiving dual anti platelet therapy (34%), while 8% of patients were not getting any therapy for stroke prevention and prevention of peripheral thromboembolism (Table 1).

**Table No.1: Types of therapies used in patients with Mitral stenosis and atrial fibrillation (n=100)**

Type of therapy	No.	%
DAPT	34	34.0
Anticoagulation	25	25.0
Aspirin	25	25.0
Clopidogrel	8	8.0
No therapy	8	8.0

**Table No.2: Factors associated with underutilization of anticoagulation (n=100)**

	No.	%
Patient Preference	40	40.0
Monitoring Issue	23	23.0
Affordability	7	7.0
Complications	15	15.0
Old age	15	15.0

There were many factors responsible for not putting these patients on warfarin therapy. Most common factor

was patient preference of not taking warfarin therapy (40%) after detailed discussion about its benefit, risk and monitoring issues. 23 % patients were from far flung areas and there was no facilities nearby available for PT/INR test (Table 2).

## DISCUSSION

In our study only 25 % patients with AF and mitral stenosis were receiving anticoagulation for stroke prevention. Remaining patients were either on antiplatelet therapy or no therapy. This shows that most of patients in our local set up do not receive proper anticoagulation. Majority of our patients are usually put on antiplatelet medications in the form of clopidogrel, aspirin or dual antiplatelet medications. The problem is though worse in our local setup but exist worldwide. This fact is supported by a study conducted by Frewen et al<sup>14</sup> in Ireland showing that only 40% of patients were prescribed anticoagulation. Tanislave et al<sup>15</sup> studied same issue and found that only 45% patients were on anticoagulation. Though these studies were not only focused for mitral stenosis as they studied all patients who were candidate for anticoagulation either having mitral stenosis or high CHA<sub>2</sub>DS VASc score. Regarding various factors responsible for under treatment of patients who need anticoagulation we found that majority (40%) patients were not ready to take anticoagulation after detail discussion about its advantages, complications, monitoring issues and regular follow up. Other common causes were the patient's socioeconomic status who are not affording of regular purchasing of medicine and expenses of follow up and laboratory expenses. Due to lack of availability of facilities for PT/INR some patients were not prescribed warfarin. Some patients who experienced complications in past were never agree to take warfarin. Similar study was performed by O'Brien et al<sup>15</sup> to find the various factors responsible for under treatment of patients who were candidate for anticoagulation. They found that major factor for under treatment of these patients is patient preference of not taking warfarin therapy. O'Brien et al<sup>16</sup> found that in 27.5%, this was the cause of under treatment. This was also major factor in our study accounting for 40% causes of not taking warfarin. Same study also mentioned that old age and frailty is responsible for lake of anticoagulation in 17% patients which is similar to our findings. Contrary to their findings of 10% antiplatelet medications, we found higher frequency of patients taking antiplatelet medication due to the fact that most of these patients are usually treated by general physicians who either are unaware of the importance of anticoagulation or fear of complication and monitoring.

## CONCLUSION

Atrial fibrillation is still an undertreated condition and most patients with AF and Mitral stenosis are still

deprived of benefits of anticoagulant therapy. Majority of these high risk patients are treated with antiplatelet therapy.

**Conflict of Interest:** The study has no conflict of interest to declare by any author.

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