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Research Article

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Anticoagulant Therapy for Non- Valvular Atrial Fibrillation Patients, How Close Are We to the Guidelines?

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ABSTRACT

Atrial Fibrillation (A-fib) is strongly associated with cerebrovascular accident CVA, transient ischemic attacks, and peripheral vascular embolic events, oral anticoagulants are widely prescribed for the prevention of these events associated with AF.

The study aimed to assess the adherence of physicians providing care to A-fib patients with the European Society of Cardiology (ESC) guidelines of (A-fib) treatment regarding anticoagulation therapy.

This audit was carried out with a case series design by reviewing the medical records and discharge papers of 100 Libyan patients diagnosed with Non-Valvular atrial fibrillation (NVAF) who were admitted to the cardiology department at Tripoli University Hospital from (Jan - Dec 2021).

The files of 100 Libyan patients with NVAF were evaluated 60 were females (60%), the mean age was 65.6 ± 14 years, 57% were elderly older than 65 yrs. 32% live outside Tripoli. Regarding the cause of A-fib, ischemic heart disease (IHD) was the commonest cause 37%, hypertension 36%, Non Ischemic cardiomyopathy 22%. Regarding the other comorbidities, diabetes mellitus was found in 44% of patients, History of cerebrovascular accident (CVA) was documented for 17% of patients. Anti -arrhythmic drugs were prescribed for 75.4% of patients at discharge; Antiplatelet drugs (Aspirin and clopidogrel) were prescribed for 27% of the patients, Anticoagulants were prescribed for 57 patients (57%) at discharge, warfarin in 83.3% of them and Direct Oral Anticoagulant (DOACs) in the form of Rivaroxaban (Xarelto) in 16.7%. and no anticoagulant prescribed to the other 43 patients (43%), 40 patients of them (93%) were with CHA2DS2-VA score≥2 which according to the new ESC guidelines of the management of AF they recommended to be on oral anticoagulants, from these 40 patients; Aspirin prescribed to 14 (35%), Aspirin and clopidogrel prescribed to 13 (32.5%) and the other 13 patients (32.5%%) discharged with no anticoagulant nor anti-platelets, with no clear cause documented in the medical records.

Conclusion: 40% of the patients under study were discharged without a prescription of any anticoagulant, although they were fulfilling the ESC guideline of AF treatment.

Recommendation: additional study on the knowledge, attitude, and practice of physician about the importance of anticoagulants in preventing thromboembolic complications in A-fib patients.

Key words- *Arrhythmias; Non -Valvular Atrial Fibrillation; Ischemic stroke; Oral Anticoagulants; Libya.*

INTRODUCTION

Atrial fibrillation (A-fib) is the most common cardiac arrhythmia affecting more than 33 million patients in the world[1] non-valvular atrial fibrillation (which is defined as A-fib in the absence of moderate-to-severe mitral stenosis and mechanical heart valves) is responsible for 13-26% of ischemic strokes[2-4] the rate increases with age[5] ischemic stroke associated with A-fib, the risk of stroke recurrence within 14 days is 2-fold greater than patients without A-fib[6] and up to 1.3% per day.[7,8] Effective stroke prevention with oral anticoagulant is the cornerstone of the management of patients with AF and it reduces the risk of stroke and death. Vit K antagonists (VAKs) oral anticoagulation is effective in the prevention of strokes secondary to (A-fib), reducing the risk of stroke by approximately 64%. Non – vitamin K antagonist or direct oral anticoagulants (DOACs) have been developed that inhibit thrombin (dabigatran) or activated factor Xa (rivaroxaban, apixaban and edoxaban), have similar efficacy to VKAs in primary and secondary prevention of stroke but are associated with about half the frequency of intracranial hemorrhage[10,11], and an increased risk of gastrointestinal bleed when compared to warfarin[12], Risk scores are commonly used to assess thromboembolic risk according to the (CHA2DS2-VA score)[13] which is (Congestive heart failure, Hypertension, Age≥75 years, Diabetes mellitus, Stroke, Vascular disease, Age 65-74 years), whereas anticoagulant is recommended if the score is ≥ 2, and should be considered in those with a CHA2DS2-

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VA score of One[4], such therapy is associated with an increased risk of bleeding, and hence we have to evaluate our (A-fib) patients carefully before prescribing this effective treatment, and also to assess the patient's risks of thromboembolism and bleeding by using the HAS-BLED score (hypertension, abnormal renal/liver function, stroke, bleeding history or predisposition, the labile international normalized ratio [INR], elderly [age ≥65 years], drugs/alcohol concomitantly). This score had the best evidence for predicting bleeding risk based on systematic reviews and meta-analyses comparing bleeding risk prediction approaches.[15-17] A-fib patients are subdivided into 3 risk stratifications, in which a score of 0 indicates low risk, 1–2 indicates moderate risk, and ≥3 indicates high risk for bleeding, however bleeding risk is highly dynamic and a high bleeding risk score (e.g. HAS-BLED ≥3) is not a reason for withholding OAC, but these patients should have proactive management of modifiable bleeding risk factors with scheduled early follow-up and review and along with patient preferences.[13] Aspirin has inadequate protection against stroke, the European Society of Cardiology (ESC) guidelines; do not recommend antiplatelet monotherapy for stroke prevention irrespective of stroke risk.[14]

Aim: To assess physicians' adherence to Non-valvular A-fib patients' ESC guidelines of (A-fib) treatment regarding anticoagulation therapy.

MATERIALS AND METHODS

Audit study was carried out with a case series design by reviewing the medical records and discharged papers of 100 patients diagnosed with atrial fibrillation and who were admitted to the cardiology department in Tripoli University Hospital from (Jan - Dec 2021), data collected in a predesigned worksheet and analyzed by SPSS software V.22.

RESULTS

The files of 100 Libyan patients with Non-valvular (A-fib) were evaluated 60 were females (60%), the mean age was 65.6 ± 14 years, 57% were elderly older than 65 yrs., 41% were adults aged (41 – 65 yrs.), and only 2% were a young adult aged 20- 40 yrs. 32% live outside Tripoli. Regarding the cause of A-fib, IHD was the commonest cause 37%, hypertension 36%, Non Ischemic cardiomyopathy 22%, Obstructive Sleep Apnea (OSA) 4%, and thyrotoxicosis in 1%. Comorbidites associated with A-fib included, diabetes mellitus in 44% of patients, renal impairment in 23% of patients, and heart failure in 15% of patients. History of CVA was documented for 17% of patients. Anti -arrhythmic drugs were prescribed for 75.4% of patients at discharge; the most prescribed class was class II (87.2%), then class VI (8.3%), and class III, antiplatelet drugs (Aspirin and clopidogrel) were prescribed for 27% of the patients, anticoagulants were prescribed for 57 patients (57%) at discharge, warfarin in 83.3% of them and Direct Oral Anticoagulant (DOACs) in the form of Rivaroxaban (Xarelto) in 16.7%. No anticoagulant was prescribed to the other 43 patients (43%) and by applying the HAS-BLED score on these 43 cases who did not receive the anticoagulants, we found that 1 case had 4 points, 13 cases had 3 points, 13 cases had 2 points, 14 cases had 1 point and 2 cases had zero point, from the 43 patients; 40 patients (93%) were with CHA2DS2-VA score ≥2 which according to the new ESC guidelines of the management of AF making them eligible for oral anticoagulants, out of these 40 patients, 14 (35%) were prescribed Aspirin, 13 (32.5%) Aspirin and Colpidogrel, and the other 16 (32.5%) were released without anticoagulant or anti-platelet medication, with no apparent reason noted in the medical records.

Table 1: Sociodemographic features of admitted patients Non valvular AF (2021).

Features	Percentage
Age range (years)	
>65 years	57%
(41-65years)	41%
(20-40years)	2%
Gender	
Male	40%
Female	60%
Address	
Tripoli	68%
Outside	32%
Associated Co-morbidities	
DM	44%
Renal impairment	32%
CVA	17%
Heart failure	15%

Table 2: Etiology of Non-valvular AF (2021).

Causes	Frequency
IHD	37%
HPT	36%
Non ischemic cardiomyopathy	22%
OSA	4%
Thyrotoxicosis	1%

Table 3: Associated Co-morbidities in the admitting patients with Non-valvular AF (2021).

Co-morbidity	Frequency
DM	44%
Renal impairment	32%
CVA	17%
Heart failure	15%

Table 4: Treatment of the patients with Non-valvular AF on discharge (2021).

Treatment	Frequency
Anticoagulants	57%
Antiplatelet	27%
Neither anticoagulants – nor antiplatelet	16%
Antiarrhythmic	
Class II	87.2%
Class VI	8.3%
Class III	4.5%

Table 5: Patients with Non-valvular AF discharged withoutanticoagulants according to CHA2DS2-VA (2021).

CHA2DS2-VA score	Frequency
≥ 2	40%
1	%

Table 6: patients with Non-valvular AF discharged without anticoagulants according to HAS=BLED (2021).

HAS-BLED score	Frequency
4 points	1%
3 points	13%
2 points	13%
1 point	14%
0 point	2%

DISCUSSION

To the best of our knowledge, this observational descriptive real-world study is the first in Libya to assess the treatment decision and the adherence of the caring physician to the ESC guidelines of the management of Non-valvular AF.

In our study female patients were the predominant to have Non-valvular AF, 57% of our patients, while in other studies the male was the predominant gender.[18,19] Nonvalvular AF is a disease of aging.[20,21] Over half of our patients were over 65 years old. Our patients were older than those seen in the Egyptian registry[22], where the mean age was 61 years 22, in a study from the United Arab Emirates UAE[23], but younger than those reported in a Japanese study.[24]

In our investigation, the most prevalent cause of non-valvular AF was IHD, which differed with the findings of a study conducted in the United Arab Emirates (UAE)[23] and in Saudi Arabia[25], where the most common cause was arterial hypertension.

With a percentage of 83.3% of those who received oral anticoagulants, warfarin a vitamin K antagonist remains the most popular anticoagulant option in our study, despite the fact that its use has decreased since the introduction of DOACs.[26,27] This could be due to the high cost of the DOAC in Libya. Our finding is similar to those in Japan[24], but they differ from those in the Middle East and North Africa registry[28], Egypt[22], and the United Arab Emirates[23], where DOACs were administered more often than vitamin K antagonists.

In our study, 43 patients (43%) were discharged without anticoagulants, 3 of them (6.97%) of them had CHA2DS2-VA score<1, which means they don't require anticoagulants in accordance with ESC recommendations.[14]

Despite of the guidelines indications the remaining 41 patients (41% of the all AF patients) discharged without prescribing the anticoagulants, this finding was higher than that observed in England where they found 17% of the patient discharged without anticoagulant although their CHA2DS2-VA score was ≥ 2[29] in Geneva only 12% of patients without anticoagulant prescriptions.[30] Asia only 18.8%[31] and higher than the report from the Euro Heart Survey on atrial fibrillation, where increased prescription of oral anticoagulants was observed with increasing stroke risk scores[32] we also found that antiplatelet were prescribed in 27% of the patients with CHA2DS2-VA score ≥ 2 in spite that they are not an alternative to oral anticoagulants, Antiplatelet drugs alone (Aspirin, or Aspirin in combination with Clopidogrel) are not recommended for stroke prevention in AF[33,34] should not be used for stroke prevention, and can lead to potential harm (especially among elderly patients with AF).[35]

CONCLUSION

Despite being advised to take an anticoagulant by the ESC guideline for treating atrial fibrillation, 40% of the individuals in the study were released without a prescription of any anticoagulant.

RECOMMENDATIONS

The attitude, knowledge and practices of physicians on the significance of prescribing anticoagulants at discharge, especially for patients with atrial fibrillation (A-fb), do require further research. This is important since anticoagulant medication can lower these individuals' risk of stroke and other thromboembolic events considerably, yet under treatment is still a problem.

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