

Clinical Experience on Usage of Apixaban in Thrombosis Management

ABSTRACT

Oral anticoagulation therapy has been increasing in clinical practice for the prophylaxis and treatment of thromboembolic conditions, such as atrial fibrillation (AF). Warfarin is the standard of care, but its disadvantages include interactions with drugs and food, slow onset of action, and narrow therapeutic index. Non-vitamin K antagonist oral anticoagulants (NOACs) such as dabigatran, rivaroxaban, and apixaban are now approved for the prevention of thrombosis in both non-valvular atrial fibrillation and venous thromboembolism. The aim of the present study is to explicate the use of NOACs in various thromboembolic disorders.

Key words: Oral anticoagulation therapy, Prophylaxis, Thromboembolic conditions

INTRODUCTION

Oral anticoagulation therapy use in clinical practice has been increasing steadily over the years for the prophylaxis and treatment of several thromboembolic conditions.^[1,2] Atrial fibrillation (AF) is a clinical condition associated with a high risk for thromboembolism and independent risk factor for stroke, heart failure, and mortality.^[3] AF increases the risk of stroke approximately five folds and is a leading cause of death and permanent disability.^[4] Historically in thromboembolic conditions such as venous thromboembolism (VTE), including deep vein thrombosis (DVT) and pulmonary embolism, AF and prevention of stroke, oral anticoagulant therapy with warfarin a Vitamin K antagonist (VKA) has been considered the standard of care.^[5] There are a number of benefits specific to warfarin, including less expensive generic molecules and alternatives for monitoring and reversing the anticoagulant impact. Conversely, Warfarin's drawbacks include its narrow therapeutic index, slow onset of action, and interactions with food and drugs.^[6] Despite demonstrated efficacy in preventing thrombotic disease, the practical challenges associated with the utilization of warfarin resulted in the introduction of number of non-VKA oral anticoagulants (NOACs) into the market. NOACs, such as dabigatran, rivaroxaban, and apixaban, are newer agents approved for prevention of thrombosis in both nonvalvular atrial fibrillation and VTE. The aim of present is to explicate the use of NOACs in various thromboembolic disorders.

MATERIALS AND METHODS

This questionnaire-based cross-sectional study was conducted by around 189 practicing consultants from all over India. The pre-validated and pre-tested questionnaire was shared with all the participants as Google form link through emails and WhatsApp. The questionnaire included sections pertaining to

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demographic details and section related to thromboembolic disorders and oral anticoagulant drugs. Amongst 189, only 180 questionnaires filled were included in the study and nine were excluded from the study. Data from the questionnaires were entered into the excel sheet and were analyzed using descriptive statistics such as graphs, charts, and tables.

RESULTS

As shown in Table 1, the observations made by practicing consultants, who reported 48.88% and 32% of cases of AF in men and both the genders, respectively. 69.9% of consultants in practice reported seeing more than 20 instances of AF each month. About 40.56% of practicing consultants observed myocardial infarction as the most common cause of AF followed by 37.22% observed cardiomyopathy as a common cause. Hypertension and heart failure were important risk

Table 1: Demographic details of thromboembolic events shared by practicing consultants

Disease parameters	Opinion of consultants n (%)
Atrial fibrillation	
Gender	
Male	88 (48.88)
Both gender	56 (32)
Female	36 (20)
Number of cases per month	
<20	55 (30.55)
>20	125 (69.44)
Common causes of atrial fibrillation	
Cardiomyopathy	67 (37.22)
Coronary artery disease	61 (22.22)
Myocardial infarction	40 (40.56)
Risk factors	
Hypertension	73 (40.55)
Heart Failure	53 (29.44)
Left ventricular diastolic dysfunction	32 (17.77)
Cause in younger	
Rheumatic heart disease	101 (56.11)
Deep vein thrombosis	
Gender	
Male	64 (35.55)
Female	116 (64.44)
Number of cases per month	
<20	55 (30.55)
>20	125 (69.44)

factors for AF observed by 40.55% and 29.44%, respectively. About 64.44% of practicing consultants shared in DVT female gender were attending the OPD, while 69.44% of practicing consultants shared >20 patients of DVT attending the clinic.

As shown in Table 2, oral anticoagulants were preferred by, prolonged hospitalization, inter-individual variability of dose-response, monitoring of INR were the major limitations for use of Warfarin by 90% of Practicing consultants preferred apixaban amongst other novel oral anticoagulants because of better safety profile and in AF by 83.88% practicing consultants, while quick onset, renal safety, and safe in elderly were benefits shared by 79.44%.

DISCUSSION

In our questionnaire-based cross-sectional study, we have analyzed that majority of practicing consultants observed that gender distribution of AF was slightly more in male,

Table 2: Use of anticoagulants shared by practicing consultants

Most preferred anticoagulants	Practicing consultants n (%)
Oral anticoagulants	170 (94.44)
Major limitations of warfarin	
Prolonged hospitalization	164 (91.11)
Inter-individual variability of dose response	
Monitoring of INR	
Others	16 (8.89)
Use of novel oral anticoagulants	
Novel oral anticoagulants with better safety profile	
Apixaban	162 (90)
Dabigatran	10 (5.5)
Rivaroxaban	8
Novel oral anticoagulants in atrial fibrillation	
Apixaban	151 (83.88)
Dabigatran	13
Rivaroxaban	16
Benefits of apixaban over other	
Lesser bleeding risk	37
Quick onset, renal safety, safe in elderly	143

and this is in line with Raja and Kapoor, 2016.^[7] There was predominance of DVT in female gender, and this is in line with Borde *et al.* 2017.^[8] In this present study, a higher incidence and prevalence rate of more than 20 cases of AFs and DVT per month was shared by majority of the participating consultant.

We have noted that in non-valvular AF, Coronary artery heart disease presenting as myocardial infarction was the most common cause of AF, this is in line with Saggu *et al.*^[9] Hypertension and heart failure were important risk factors for non-valvular AF shared by practicing consultants; this is in line with Maisel and Stevenson^[10] and Kannel *et al.*^[11]

In our present study, we have analyzed that oral anticoagulants were preferred in clinical practice. While prolonged hospitalization, inter-individual variability of dose-response, and monitoring of INR were the major limitations for the use of Warfarin by practicing consultants, this is in line with Vene and Mavri.^[12] Among other novel oral anticoagulants, apixaban was preferred over others in thromboembolic events like AF because of better safety profile, quick onset, renal safety, and safe in elderly, Chen *et al.*^[13]

CONCLUSION

In this present study, we have concluded that Warfarin, an oral VKA and anticoagulant is replaced in clinical practice by a novel oral anticoagulant because of various safety limitations. The novel oral anticoagulant has a safety profile, and among

many of the newer one, Apixaban is preferred by the majority of the participating consultants.

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