Original Article

Tolerability and Efficacy of Apixaban Versus Rivaroxaban for Non-Valvular Atrial Fibrillation

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ABSTRACT

Objective: The main objective of the study is to find the tolerability and efficacy of apixaban Vs rivaroxaban for non-vulvular atrial fibrillation

Study Design: Cross-sectional study

Place and Duration of Study: This study was conducted at the Pakistan Institute of Medical Sciences Islamabad during August 2020 to July 2021 for a period of ten months.

Materials and Methods: Bunch I patients will be given rivaroxaban 15mg everyday two times per day for one month then 20mg day to day for quite some time and Group II patients will be given 5mg two times day to day all through the treatment period.

Results: The information was gathered from 120 patients. Out of 120 members, 60 were treated with rivaroxaban, while 60 were treated with Apixaban. Middle age was 26 years in the gathering I and 25.3 years in the gathering II (p=0.705). Female cases counted for 41 (86%) and 19 (14%) in I and II gatherings, individually.

Conclusion: It is reasoned that oral anticoagulant drugs for counteraction of stroke in non-valvular AF have been developed and adding new choices and benefits for patients and doctors like less recurrence of medication and food associations, no requirement for checking, expansive helpful list and endured better by patients.

Key Words: Tolerability, Apixaban, Rivaroxaban, Non-Valvular Atrial Fibrillation

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INTRODUCTION

Atrial fibrillation (AF) is the most well-known supported heart arrhythmia and is found in 1-2% of everybody. The quantity of patients with AF in the United States was 2.2 million of every 2010 and is relied upon to ascend to 12 million by 2050. Ischaemic stroke and foundational thromboembolism are the most extreme and deadly complexities of AF. AF is liable for 15% of the ischaemic stroke cases among all age gatherings and this rate increments up to 30% in individuals more established than 80 years [1]. Warfarin is a vitamin K adversary (VKA) that has been utilized in the avoidance of AF for more than 50 years.

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Randomized preliminaries have shown that warfarin is better than fake treatment, ibuprofen and the mix of anti-inflamatory medicine clopidogrel in forestalling stroke. Warfarin use is trying because of its tight restorative record and it has numerous food and medication collaborations. The quantity of patients with atrial fibrillation (AF) who need stroke anticipation keeps on rising [2]. The pervasiveness of AF increments with age and is related with a higher gamble of ischemic stroke. The utilization of warfarin decreases the gamble of ischemic stroke in patients with AF, yet they need incessant observing and portion change. Ischemic stroke is considered as a central neurological deficiency from non-horrendous and non-hemorrhagic causes. AF is the reason for ischemic stroke in 15% of any age and 30% of individuals more than 80 years old. The gamble of ischemic stroke increments altogether with anticoagulant suspension [3].

The significance of a protected and successful avoidance rule with the best antiplatelets and anticoagulants blend is a significant objective for medication. Oral direct component Xa inhibitors (xabans) are endorsed by the United States Food and Drug Administration (FDA) for the counteraction of stroke. Warfarin is a main bad guy of vitamin K. Xabans have an alternate impact in the thickening course. They act straightforwardly upon factor Xa. They have less medication and food collaborations, and

their area in the coagulation course guarantees their productivity [4].

During the past decade, non-vitamin K trouble makers (NOACs) have shown to be either preferred or noninferior over warfarin for stroke expectation in AF, both in tremendous randomized controlled starters and in evident observational assessments. NOACs as of now address a large portion of new answers for oral anticoagulation in patients with AF in a couple of countries, including the United States, United Kingdom, and Denmark [5].

Rivaroxaban and apixaban are right now the most broadly started NOACs, however no straight on randomized preliminary have straightforwardly analyzed these 2 medications. The two medications are factor Xa inhibitors, however they have different pharmacokinetic profiles that could influence their security and viability [6]. Apixaban is probably going to be liked over rivaroxaban among patients with low renal capacity and high draining gamble, and these attributes are just somewhat recorded in libraries. Instrumental variable (IV) strategies, in which an element (the instrument) predicts treatment decision however has no immediate impact on results, can address unmeasured frustrating [7].

MATERIALS AND METHODS

This cross sectional comparative study was conducted in Pakistan Institute of Medical Sciences Islamabad during August 2020 to July 2021.

Sample Size: 120 patients

$$n = \frac{\left\{ z_{1-\alpha}\sqrt{2\bar{P}(1-\bar{P})} + z_{1-\beta}\sqrt{P_1(1-P_1)+P_2(1-P_2)} \right\}^2}{(P_1 - P_2)^2}$$

Where,

α = level of significance (1%)

β = power of study (99%)

P_1 = 0.25 (population in Group I)

P_2 = 0.75 (population in Group II)

n = 120 (60 in each group)

Data Collection Method: After consent from clinic moral council, complete 120 patients meeting the consideration and rejection models was signed up for Pakistan Institute of Medical Sciences Islamabad during August 2020 to July 2021. Itemized history and actual assessment was done to meet the incorporation and rejection rules. Informed assent was acquired.

The information was gathered into two gatherings:

Bunch I: Treated with Rivaroxaban

Bunch II: Treated with Apixaban

Bunch I patients will be given rivaroxaban 15mg everyday two times per day for one month then 20mg day to day for quite a long time and Group II patients will be given 5mg two times day to day all through the treatment period. Determination was made with a clinical show predictable with AF. Both the gatherings was followed during hospitalization and after release of the patient for 30 days for the advancement of any difficulties. Viability was characterized as ischemic stroke or fundamental embolism. Security was characterized as intracranial discharge or gastrointestinal dying. Post release follow up was done month to month on OPD premise.

Statistical Analysis: All the data was analyzed by SPSS 20.0 system for Windows.

RESULTS

The data was collected from 120 patients. Out of 120 members, 60 were treated with rivaroxaban, while 60 were treated with Apixaban. Middle age was 26 years in the gathering I and 25.3 years in the gathering II (p=0.705).

Table No.1: Demographic characteristics of selected patients

Baseline characteristics	All patients	Rivaroxaban	Apixaban	p-Value
AGE (mean, min-max)	25.3 (15–45)	26 (15–36)	27 (15–45)	
Gender				
Male	13 (18%)	14 (14%)	15 (21%)	
Female	47 (82%)	46 (86%)	45 (79%)	
Risk Factor				
OCP	08 (18%)	03 (14%)	05 (21%)	
Anemia	13 (29%)	06 (29%)	07 (29%)	
Dehydration	06 (13%)	04 (19%)	02 (08%)	.613
Pregnancy/Puerpureum	22 (49%)	10 (48%)	12 (50%)	
Ischemic stroke	25 (56%)	12 (57%)	13 (54%)	.843
Hemorrhagic stroke	17 (38%)	08 (38%)	09 (38%)	.968
Myocardial infarction	13 (29%)	06 (29%)	07 (29%)	.965
Intracranial hemorrhage	17 (38%)	08 (38%)	09 (38%)	.968
Duration (months) mean (min-max)	03 (03–12)	03 (03–12)	03 (03–12)	.058

Table No.2: Complications and clinical outcomes in both groups

Variables	All patients	Rivaroxaban	Apixaban	*P*-value
Overall	32(71%)	15 (71%)	17 (71%)	
Partial	11(24%)	03 (14%)	08 (33%)	.377
Complete	21(47%)	12 (57%)	09 (38%)	
At 12 months				
Overall	45(100%)	21 (100%)	24(100%)	
Partial	05 (11%)	02 (10%)	03 (13%)	.754
Complete	40 (89%)	19 (90%)	21 (87%)	
All bleeding events	08 (18%)	02 (10%)	06 (25%)	.161
Clinically relevant non major bleeding	02 (4%)	00	02 (8%)	

Female cases counted for 41 (86%) and 19 (14%) in I and II gatherings, individually. Risk factors, clinical show, impacted vessels and AF for the two gatherings are portrayed in Table I. Results from the two gatherings were tantamount and measurably no huge contrasts were noticed (p-value more than 0.05).

DISCUSSION

Nonvalvular atrial fibrillation (NVAF) is normal in patients with ongoing kidney sickness, and the predominance notably increments as renal capacity declines. An expected 13%-27% of patients with end-stage renal sickness (ESRD) have NVAF, a significantly higher predominance than in everyone [8]. Moreover, constant kidney sickness builds the stroke risk autonomous of other gamble factors in patients with NVAF. Regardless of an expanded thromboembolism risk in patients with ESRD and NVAF, anticoagulant use in this populace has been dubious in light of the fact that it needs adequate advantages, and anticoagulant clients have had more antagonistic impacts than nonusers. Also, stroke anticipation is perplexing on the grounds that renal brokenness is an autonomous gamble factor for significant draining [9].

Significant gamble factors for dying, for example, levels of creatinine, hemoglobin, weight record, pulse, and liver capacity, are not normally accessible in libraries, and definite renal capacity has not, as far as anyone is concerned, been accessible in any past examination. Involving substitute markers for draining gamble and decreased renal capacity, for example, emergency clinic release analyze, is probably going to cause remaining frustrating; for example, variety in renal capacity among patients regardless of constant kidney sickness analysis is still liable to impact therapy choice and results [10-11].

Rivaroxaban had no critical relationship to significant draining when we analyzed rivaroxaban and apixaban involving individual-level treatment as openness in the current review, proposing that unmeasured puzzling might have caused precise misstatement of the genuine draining gamble with rivaroxaban in past examinations. Interestingly, an IV can, under a few significant suppositions, adapt to unmeasured perplexing between openness bunches [12].

CONCLUSION

It is concluded that oral anticoagulant drugs for anticipation of stroke in non-valvular AF have been developed and adding new choices and benefits for patients and doctors like less recurrence of medication and food associations, no requirement for observing, wide helpful record and endured better by patients. Treatment with rivaroxaban 20 mg whenever everyday was related with genuinely huge expansions in major extracranial dying, including major gastrointestinal dying.

Author's Contribution:

Concept & Design of Study:	Mahboob Ur Rehman
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Conflict of Interest: The study has no conflict of interest to declare by any author.

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