

Patients' Perception of Newly Initiated Oral Anticoagulant Treatment for Atrial Fibrillation: an Observational Study

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INTRODUCTION

Patient's satisfaction with oral anticoagulants (OAC) for the treatment of atrial fibrillation has been reported,^{1–4} but not in new users of warfarin or direct oral anticoagulants (DOACs). The main objective of this study was to describe patient's expectations and satisfaction with oral anticoagulant treatment.

METHODS

This prospective observational study recruited subjects with non-valvular atrial fibrillation or atrial flutter during hospital admissions between February 2013 and December 2014. The institutional scientific and ethics committees approved this study.

Patients were at least 18 years old, had a diagnosis of non-valvular atrial fibrillation or atrial flutter, were able to speak and read French or English, and were newly prescribed an OAC during admission that was continued at discharge (either warfarin or a DOAC [apixaban, dabigatran, or rivaroxaban]). Exclusion criteria were cognitive impairment, delirium, schizophrenia, OAC use for at least 1 month in the last year, moderate to severe mitral stenosis, heart valve replacement, congenital cardiac disease, uncontrolled hyperthyroidism, substance abuse, drug intoxication, an indication other than atrial fibrillation for the OAC, atrial fibrillation episode of less than 48 h, and peri- or post-operative atrial fibrillation.

Baseline characteristics were collected from medical charts and by patient interviews. To assess our primary outcome, expectations and satisfaction of patients towards their anticoagulant treatment were assessed using the "Perception of anticoagulant treatment questionnaire (PACT-Q)".^{5,6} The PACT-Q1 includes 7 questions on patients' expectations. The PACT-Q2 includes 20 questions on treatment convenience ($n = 11$ items), burden of disease and treatment ($n = 2$ items), and anticoagulant treatment satisfaction ($n = 7$ items) scored on a 5-point Likert-like scale. The PACT-Q1 is to be administered before treatment initiation, but because anticoagulation prescription was an eligibility criteria, it was administered during hospitalization as soon as possible following treatment initiation. The PACT-Q2 is to be administered once treatment is ongoing, and was mailed to the patients 3 and 6 months following discharge.

Mean scores for each of the seven items of the PACT-Q1 were estimated in the warfarin and DOAC groups. For the PACT-Q2, two dimension scores were calculated, the convenience score including 13 items (combining convenience [$n = 11$ items] and burden of disease dimensions [$n = 2$ items]) and the satisfaction score (including 7 items). Convenience and burden of disease items were reversed (reversed score = 6—item score), added together, and rescaled on a 0–100 scale to obtain a convenience dimension score. Satisfaction items were summed and rescaled on a 0–100 scale to determine the satisfaction dimension score. Mean scores were compared between subjects on warfarin and subjects on DOACs using Student *t* tests (IBM® SPSS® Statistics software, version 20).

RESULTS

Among 159 included subjects, 71 were prescribed warfarin and 88 a DOAC, mainly rivaroxaban (71.6%)

Table 1 Baseline Characteristics

Characteristics	Warfarin (n = 71)	DOAC (n = 88)	p value
Age (years), mean ± SD	72.8 ± 10.8	69.9 ± 12.3	0.12
Male gender, n (%)	41 (57.7)	56 (63.6)	0.45
BMI (kg/m ²), n (%)			0.22
< 18.5	2 (2.8)	0	
18.5–24.9	13 (18.3)	24 (27.3)	
25.0–29.9	25 (35.2)	29 (32.9)	
> 30.0	31 (43.7)	35 (39.8)	
Smoking status, n (%)			0.35
Current smoker	7 (9.9)	10 (11.4)	
Non smokers	16 (22.5)	32 (36.4)	
Former smokers	48 (67.6)	46 (52.3)	
Alcohol consumption, n (%)			0.44
< 5 drinks/week	48 (67.6)	46 (52.3)	
5–10 drinks/week	6 (8.5)	11 (12.5)	
> 10 drinks/week	3 (4.2)	8 (9.1)	
Undetermined	14 (19.7)	23 (26.1)	
Hospital length of stay, median; range (days)	8; (1–29)	5; (1–38)	0.99
Unit of admission, n (%)			0.01
Cardiology	33 (46.5)	46 (52.3)	
Internal medicine	18 (25.4)	15 (17.0)	
Emergency	6 (8.5)	10 (11.4)	
Neurology	2 (2.8)	6 (6.8)	
Pulmonary	1 (1.4)	4 (4.5)	
Others	11 (15.5)	7 (8.0)	
Liver enzymes			
AST, median; range	20; 8–107	24; 13–319	0.62
ALT, median; range	20; 7–151	20; 7–583	0.91
eGFR, median; range (mL/min/1.73 m ²)	65.2; 11.3–99.2	76.8; 25.7–118.3	0.004
eGFR < 30 mL/min/1.73 m ² , n (%)	8 (11.3)	1 (1.1)	0.04
Diagnosis n (%)			0.84
AF only	49 (69.0)	64 (72.7)	
Atrial flutter only	11 (15.5)	13 (14.8)	
AF and Atrial flutter	11 (15.5)	11 (12.5)	
CHADS ₂ ≥ 1, n (%)	54 (76.1)	63 (71.6)	0.001
CHADS ₂ score, mean ± SD	2.6 ± 0.8	1.9 ± 1.3	0.000
Heart failure, n (%)	57 (80.3)	18 (20.5)	0.09
Hypertension, n (%)	60 (84.5)	58 (65.9)	0.008
Diabetes, n (%)	33 (46.5)	20 (22.7)	0.002
Stroke, n (%)	8 (11.3)	17 (19.3)	0.17
Coronary heart disease, n (%)	40 (56.3)	34 (38.6)	0.03
Peripheral vascular disease (other than stroke), n (%)	15 (21.1)	9 (10.2)	0.06
History of falls, n (%)	2 (2.8)	2 (2.3)	0.83
History of major bleeding, n (%)	2 (2.8)	3 (3.4)	0.83
Number of drugs at discharge, median; range	11; 1–30	7.5; 2–18	0.000
Polypharmacy (i.e., ≥ 5 drugs/day)	66 (93.0)	66 (75.0)	0.03
Concomitant ASA, n (%)	25 (35.2)	13 (14.8)	0.007
Concomitant antiplatelets (other than ASA), n (%)	14 (19.7)	2 (2.3)	0.001

(Table 1). There were no significant differences in treatment expectations (PACT-Q1), with the exception of subjects on warfarin who had a slightly higher expectation of having side effects such as minor bruising or bleeding (Table 2, a). Convenience scores were similar in warfarin and DOAC users at 3 months and higher in the DOAC group at 6 months (Table 2, b). Satisfaction scores were similar at 3 and 6 months in both groups (Table 2, b).

DISCUSSION

Subjects on warfarin had a higher expectation of having minor side effects. In a review of studies assessing

patients' perception towards the use of vitamin K oral antagonists (VKAs), it was found that the risk of bleeding was one of the factors which most concerned patients.⁴ Regarding convenience and treatment satisfaction, only convenience was higher in subjects on DOACs at 6 months, which is most likely due to not having to test INRs regularly. Fareau et al. also found that the convenience score was higher in subjects on DOACs.¹ On the other hand, Fumigalli et al. reported that DOACs were associated with a higher degree of psychological satisfaction.² Differences could be explained by the fact that subjects in our study have not experienced treatment with another OAC in the preceding year. This study has several limitations. The number

Table 2 Results of the PACT-Q 1 Expectations and PACT-Q2 Convenience and Satisfaction

A. PACT-Q1 expectations						
Questions	Warfarin (n = 71), average score, mean ± SD	DOAC (n = 88), average score, mean ± SD	p value			
A1: Are you confident that your anticoagulation therapy will prevent the formation of blood clots?	3.82 ± 0.78	3.81 ± 0.76	0.935			
A2: Do you expect that your anticoagulation therapy will relieve some of your symptoms (such as pain or swelling in your legs, palpitations, breathlessness or chest pain, etc.)?	3.30 ± 1.16	3.07 ± 1.36	0.277			
A3: Do you expect your anticoagulation therapy to have side effects such as minor bruising or bleeding (for example, when shaving, cooking, minor cuts, etc.)?	2.67 ± 1.06	2.29 ± 1.00	0.028			
A4: Is it important for you that your anticoagulation therapy be easy to take?	3.86 ± 0.95	3.99 ± 0.80	0.359			
A5: Are you worried about making mistakes when taking your anticoagulation therapy (for example, how you take it, when you take it or the dose you are taking)?	1.61 ± 0.84	1.50 ± 0.90	0.445			
A6: Is it important for you to be able to manage your anticoagulation therapy yourself?	3.93 ± 0.96	3.85 ± 1.10	0.644			
A7: Are you worried about the money you may have to spend for your anticoagulation therapy?	2.23 ± 1.45	2.06 ± 1.37	0.455			
B. PACT-Q2 convenience and satisfaction (higher scores = convenient and satisfied)						
PACT-Q2 dimension scores	3 months		p value	6 months		p value
	Average score, mean ± SD			Average score, mean ± SD		
Convenience score	Warfarin (n = 52) 86.69 ± 16.64	DOAC (n = 54) 89.96 ± 10.12	0.069	Warfarin (n = 38) 86.29 ± 12.76	DOAC (n = 48) 90.97 ± 8.62	0.012
Satisfaction score	62.57 ± 16.00	69.25 ± 14.41	0.821	61.37 ± 17.18	69.02 ± 14.22	0.323

of patients was small and subjects on warfarin had more comorbidities. The PACT-Q questionnaire was completed by about 50 to 60% of patients at 6 months. In conclusion, expectations, convenience, and treatment satisfaction were generally similar between new users of warfarin and DOACs.

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Compliance with Ethical Standards:

The institutional scientific and ethics committees approved this study.

Prior Presentation: Complete results from this work were not presented at any conference.

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