The Effectiveness of Atrial Fibrillation Special Clinic on Oral Anticoagulants Use for High Risk Atrial Fibrillation Patients Managed in the Community

LAU Ka Man, LEUNG To Fung, LI Yim Chu, CHEN Xiao Rui Catherine

Department of Family Medicine and General Out-patient Clinics (GOPCs), Kowloon Central Cluster (KCC), Hospital Authority (HA)

Introduction and Objective

Deficiencies existed in atrial fibrillation (AF) management in Hong Kong with suboptimal utilization of oral anticoagulants. The purpose of this study was to explore the clinical effectiveness of Atrial Fibrillation Special Clinic (AFSC) by evaluating its impact on the oral anticoagulants use and the control of modifiable cardiovascular disease (CVD) risk factors in high risk AF patients.

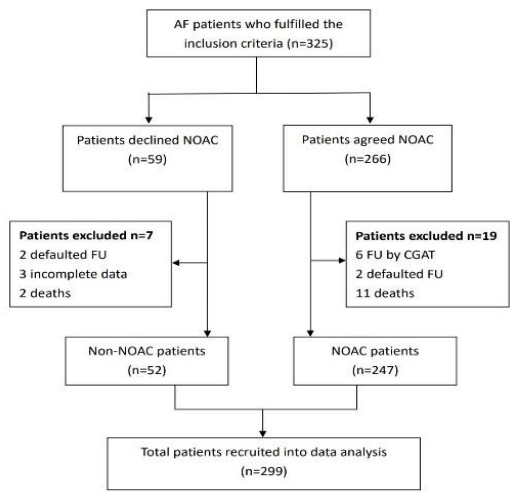
Methodology

- A quasi-experimental, pre- and post-test study.
- AFSC was set up in KCC to manage high risk AF patients (CHA_2DS_2-VASc score ≥2) after Novel Oral Anticoagulants (NOACs) were introduced to Drug Formulary of GOPCs in 07/2019.
- All AF patients FU at AFSC from 01/08/2019 to 31/ 10/2020 were included (**Figure 1**). The use of NOAC and the control of CVD risk factors were compared before and after one year FU at AFSC.
- Paired student's t test was used to analyze the continuous variables and Chi-squared test was used for categorical data. P-value of <0.05 was considered significant.

Results

- Among the 299 high risk AF patients included in the study, significant increase in NOAC utilization was observed from 58.5% to 82.6% after FU in AFSC (P <0.001) (**Diagram 1**).
- Concerning the CVD risk factors control, the average diastolic BP level was significantly reduced (P=0.009) and the satisfactory BP control rate in non-DM patients was significantly improved after one year FU at AFSC (P=0.049) (**Table 1**). However, the average HbA1c and LDL-c level remained static.
- The annual incidence rate of ischaemic stroke/systemic embolism was 0.4%, intra-cranial haemorrhage was 0.4%, all-cause mortality was 4.3%, and major bleeding episode was 3.2%, all of which were comparable to the literatures (**Table 2**).

Figure 1 Flow chart of case recruitment at AFSC during the study period.



AFSC, atrial fibrillation special clinic; CGAT, Community Geriatric Assessment Team; NOAC, novel oral anticoagulant

Diagram 1 Comparison of NOACs utilization in AF patients before and after recruited at AFSC

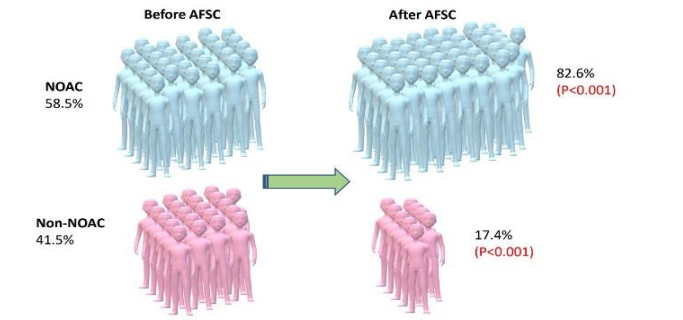


Table 2 Secondary outcomes of patients on NOAC during the study period

Variables	Total number (n=247)
Major bleeding events	8 (3.2)
Duration of taking oral anticoagulants	
less than 3 months	3 (1.2)
3-6 months	2 (0.8)
6-12 months	2 (0.8)
more than 12 months	1 (0.4)
Causes of major bleeding	
GI bleeding	8
Non-major bleeding events	4 (1.6)
Haematuria	3
Haemoptysis	1
AED attendance/hospitalization	65 (26.3)

Data are shown as number of patients (%)

Table 1 Modifiable CVD risk factor control in NOAC group at baseline and after one year FU

Variables	At baseline	After 12 months	P-value
Hypertension (n=236)			
SBP mmHg	128.1 (±13.3)	126.9 (±10.9)	0.30
DBP mmHg	71.0 (±11.5)	68.3 (±10.6)	***0.009***
1) without DM (n=109)			
Number of patients with satisfactory control	89 (81.7)	99 (90.8)	***0.049***
2) with DM (n=127)			
Number of patients with satisfactory control	76 (59.8)	81 (63.8)	0.52
Diabetes mellitus (n=130)			
HbA1c %	6.68 (±0.71)	6.65 (±0.77)	0.71
Number of patients with satisfactory control	89 (68.5)	97 (74.6)	0.27
Hyperlipidemia (n=247)			
LDL-c mmol/L	1.70 (±0.55)	1.62 (±0.52)	0.08
1) without history of CVD (n=82)			
Number of patients with satisfactory control	77 (93.9)	79 (96.3)	0.72
2) with history of CVD (n=165)			
Number of patients with satisfactory control	109 (66.1)	125 (75.8)	0.05

Data are shown as mean (±standard deviation) and number of patients (%);

Conclusion

AFSC is effective in enhancing NOAC use and maintaining optimal modifiable CVD risk factors control among high risk AF patients managed in primary care setting, therefore may reduce AF-associated morbidity and mortality in the long run.