Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Types of Cardiomyopathy
The types of cardiomyopathy of patients enrolled, including counts, is presented in eTable 1.

Type of Cardiomyopathy	n	%
Ischemic	308	59.9%
NICM NOS	130	25.3%
Unknown	40	7.8%
Peripartum	11	2.1%
Hypertrophic	8	1.6%
Chemotherapy	7	1.4%
Tachycardia	4	0.8%
Stress	4	0.8%
Familial	2	0.4%

Number of enrolled patients with each type of cardiomyopathy, including non-ischemic cardiomyopathies (NICM). NOS = not otherwise specified.

eTable 2. Antiplatelet Therapy

	DOAC	Warfarin Only	Therapy Change	Neither
No Antiplatelet	44 (36.4%)	72 (30.5%)	26 (40.6%)	32 (34.4%)
ASA	56 (46.3%)	109 (46.2%)	26 (40.6%)	44 (47.3%)
DAPT	10 (8.3%)	43 (18.2%)	11 (17.2%)	14 (15.1%)
P2Y12 Inhibitor Only	11 (9.1%)	12 (5.1%)	1 (1.6%)	3 (3.2%)
Total	121	236	64	93

eAppendix 1. Patient Follow-Up and Anticoagulation Duration

Median follow-up in patients treated with any oral anticoagulant was 418 days (IQR 139 – 927 days). Median treatment duration with all oral anticoagulation was 207 days (IQR 57 – 491.5 days), compared with median treatment of 241 days (IQR 47 – 579.5 days) with warfarin and 95.5 days with DOACs (IQR 69 – 373 days). Across all patients, aggregated treatment periods with warfarin and DOACs were 138,264 and 57,906 days, respectively.

eAppendix 2. Treatment Switching

Of the 64 patients who changed oral anticoagulant classes, there were a total of 71 switches, such that 7 patients changed twice between anticoagulant classes. Of these changes, 52 (73.2%) involved the switch from warfarin to a DOAC, and 19 (26.8%) were the result of changing from a DOAC to warfarin. Warfarin-to-DOAC switches tended to occur later after the diagnosis of LV thrombus (277 days, IQR 9.5 – 406.5 days), as compared to DOAC-to-warfarin switches (43 days, IQR 7 – 220 days). The most common cause of a warfarin-to-DOAC switch was convenience (10 switches or 19.2% of the total), whereas the most common cause of a DOAC-to-warfarin switch was cost (6 switches or 31.6% of the total).

There were no DOAC-to-warfarin switches for bleeding, compared with 3 (5.8%) warfarin-to-DOAC switches prompted by bleeding. There were 4 (21.1%) DOAC-to-warfarin switches prompted by effectiveness concerns, including thrombus non-resolution, compared with 2 (1.9%) warfarin-to-DOAC switches for this same reason. There were 8 (15.4%) warfarin-to-DOAC switches made out of concerns about medication adherence, but no DOAC-to-warfarin changes due to adherence concerns. The warfarin-to-DOAC switches for adherence concerns were followed by a total of 3 SSE. Given this, we performed a sensitivity analysis, excluding the 3 SSE on DOACs that occurred after a switch from warfarin due to concern about medication adherence. After this adjustment, anticoagulation with DOAC remained a significant predictor of SSE on univariable Cox regression (HR vs warfarin 2.16, 95% CI 1.01 – 4.61, p = 0.048).

A more comprehensive description of the timing and reasons for anticoagulation changes is included in eTable 3.

eTable 3. Timing and Reasons for Anticoagulation Changes

	Warfarin to DOAC	DOAC to Warfarin	All Changes
Total	52	19	71
Time, median (days)	277	43	207
Time, IQR (days)	9.5 - 406.5	7 - 220	6 - 278.5
Reason for Change			
Cost	1 (1.9%)	6 (31.6%)	7 (9.9%)
Convenience	10 (19.2%)	0	10 (14.1%)
Labile INR Values	8 (15.4%)	0	8 (11.3%)
Adherence	8 (15.4%)	0	8 (11.3%)
Effectiveness Concerns	2 (3.8%)	4 (21.1%)	6 (8.5%)
Change in Renal Function	0	1 (5.3%)	1 (1.4%)
Bleeding	3 (5.8%)	0	3 (4.2%)
Alternate Indication	9 (17.3%)	3 (15.8%)	12 (16.9%)
Other	4 (7.7%)	2 (10.5%)	6 (8.5%)
Unknown	7 (13.5%)	3 (15.8%)	10 (14.1%)

eAppendix 3. Atrial Fibrillation

In a univariable Cox regression model, a history of AF was not predictive of SSE (HR 0.94, 95% CI 0.49 – 1.79, p = 0.85. We also performed a subgroup analysis, excluding patients with a history of AF. This resulted in exclusion of 121 patients and 23 events. In a univariable Cox regression model of patients without AF, anticoagulation with a DOAC was a predictor of SSE (HR vs warfarin 2.59, 95% CI 1.20 – 5.63, p = 0.02).

eAppendix 4. Cardiomyopathy Type

In order to account for differences in endomyocardial pathology and thus thrombogenesis between ischemic and non-ischemic cardiomyopathies, we repeated our primary analysis among subgroups, according to type of cardiomyopathy. Among patients with non-ischemic cardiomyopathy (n = 204, events = 15) anticoagulation with a DOAC remained a predictor of SSE (HR vs warfarin 3.13, 95% CI 1.04 – 9.37, p = 0.04). However, the statistical difference between DOACs and warfarin was not preserved in the sub-group of patients with ischemic cardiomyopathy (n = 310, SSE = 16, HR vs warfarin 2.17, 95% CI 0.8 – 5.86, p = 0.13).

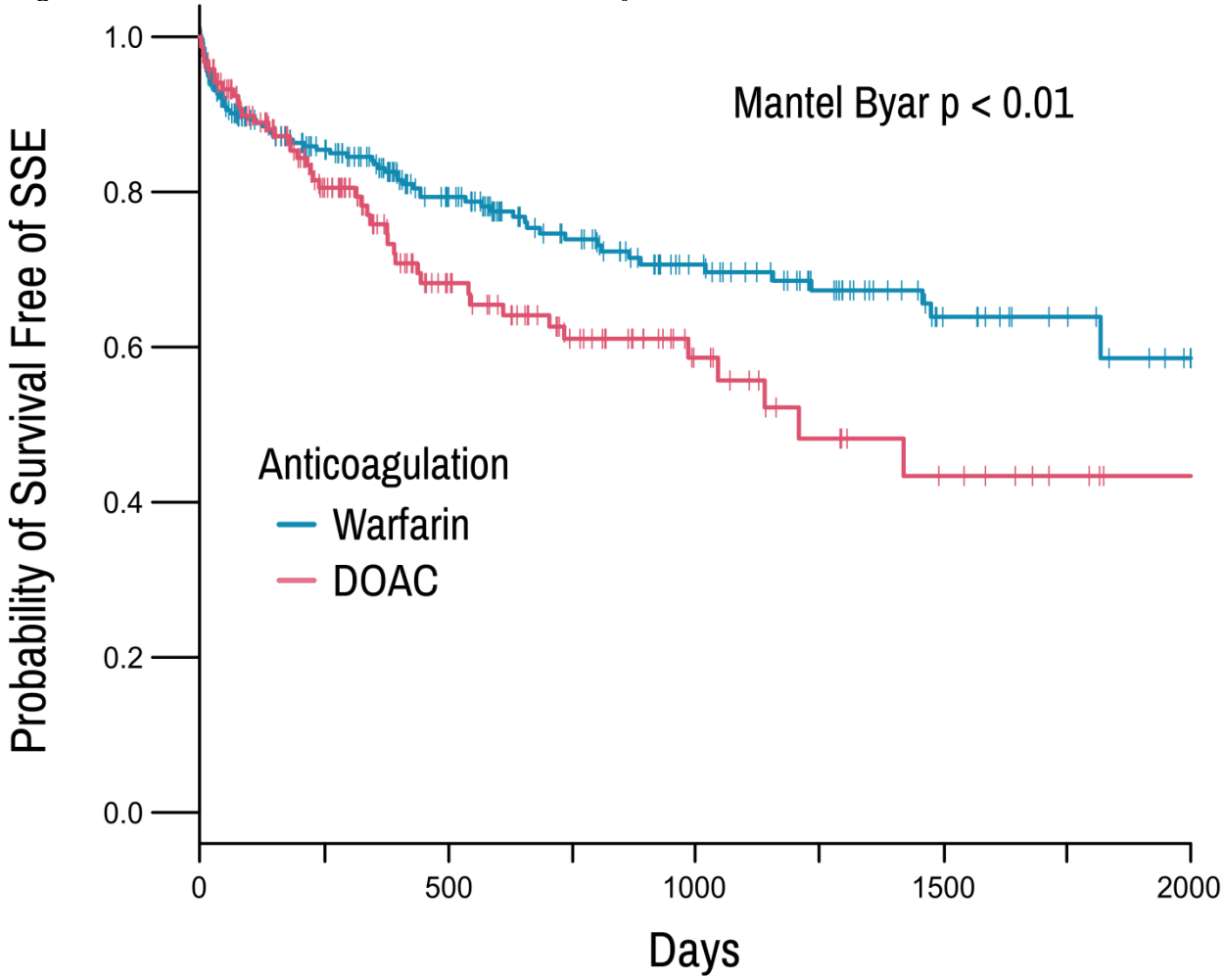
eAppendix 5. Events After Treatment Changes

In order to account for the possibility that events occurring soon after a change in anticoagulation strategy could mechanistically result from, but would not be linked to, an oral anticoagulation regimen, we performed a sensitivity analysis, re-attributing any SSE occurring within 30 days after a change in oral anticoagulation regimen to the preceding anticoagulant. There were only 2 such events, both occurring within 30 days of warfarin discontinuation. There were no such events within 30 days after discontinuation of a DOAC. On Cox univariable regression, anticoagulation with a DOAC was a predictor of SSE (HR vs warfarin 2.34, 95% CI 1.17 – 4.71, p = 0.02).

eTable 4. Comparison of Oral Anticoagulant at the Time of SSE With the Initial Agent

	Initial oral anticoagulant	Oral anticoagulant at time of SSE
Warfarin	27	14
DOAC	11	17
None		7

eFigure. Survival Curves for Survival Free of Stroke and Systemic Embolism



Number at risk									
Warfarin	87	193	138	99	73	59	33	28	17
DOAC	64	80	50	37	22	12	9	5	2

Survival free from a composite of death, stroke and systemic embolism in patients with left ventricular thrombus after index echocardiograph, Mantel Byar p < 0.01.