Results of a curtailed randomized controlled trial, evaluating the efficacy and safety of azimilide in patients with implantable cardioverter-defibrillators: The SHIELD-2 trial

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Background Frequent hospital attendances in patients with implantable cardioverter-defibrillators (ICDs) result in significant morbidity and health care costs. Current drugs to reduce ICD shocks and hospital visits have limited efficacy and considerable toxicity. We evaluated the efficacy and safety of azimilide, a novel oral class III antiarrhythmic, for use in ICD patients.

Methods A total of 240 patients were enrolled in a prospective, randomized, double-blind, placebo-controlled trial to evaluate the effect of oral azimilide 75 mg daily in ICD patients with previously documented ventricular tachycardia or ventricular fibrillation, and a left ventricular ejection fraction ≤40%. The primary outcome metric was the adjudicated time-to-first unplanned cardiovascular (CV) hospitalization, or CV emergency department (ED) visit, or CV death. The trial was prematurely discontinued due to withdrawal of study sponsorship.

Results Azimilide demonstrated numerical but statistically nonsignificant reductions in the primary composite outcome (odds ratio [OR] 0.79, 95% CI 0.44-1.44), unplanned CV hospitalizations (OR 0.75, 95% CI 0.41-1.38), ED visits (OR 0.68, 95% CI 0.35-1.31), and all-cause shocks (OR 0.58, 95% CI 0.32-1.05). The incidence of adverse events was lower in the azimilide group. Neutropenia was not observed (absolute neutrophil count <1000 μ/L), and there was one possible torsade de pointes case that led to a successful ICD discharge.

Conclusion The SHIELD-2 trial was statistically underpowered due to early trial termination and did not meet its primary objective. Despite this limitation, azimilide showed promise as a safe and effective drug in reducing all-cause shocks, unplanned hospitalizations, and ED visits in ICD patients. (Am Heart J 2017;185:43-51.)

Implantable cardioverter-defibrillators (ICDs) have mortality benefits over pharmacotherapy in patients with ventricular tachycardia (VT), ventricular fibrillation (VF), and sudden cardiac death without a reversible cause. This is true for both secondary prevention and primary prevention in certain high-risk patient groups.[1-3] Despite these advantages, shock therapies from ICDs are associated with significant psychological and physical morbidity, impaired quality of life, frequent hospital attendances, considerable health care costs, and, in the case of appropriate ICD shocks, increased mortality.[4-8] The number of ICD shock patients receive directly correlates with the number of hospitalizations and deaths, and the degree of psychological morbidity.[9,10] More than 20% of ICD shocks are inappropriately triggered by supraventricular arrhythmias.[11] For these reasons, many patients require concomitant therapy with antiarrhythmic drugs to reduce the number of ICD shocks they receive.

Relatively few published trials have assessed the efficacy of adjuvant antiarrhythmic drug therapy in ICD patients, although the reduction in arrhythmic events and in ICD-delivered therapies is recognized as an important goal for these patients. No drug is specifically approved

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by the US Food and Drug Administration or outside the United States for adjuvant use in patients with ICD, and the drugs used currently have important disadvantages, mainly due to adverse effects and incomplete efficacy.

Azimilide is a novel, class III antiarrhythmic drug that blocks both the rapid (IKr) and slow (IKs) components of the delayed rectifier potassium current in the heart.[12] Animal studies have demonstrated that azimilide prolongs cardiac refractoriness[13] and lowers defibrillation thresholds.[14] A prior placebo-controlled outcomes study[15] in 3,717 high-risk cardiac patients demonstrated that therapy with azimilide did not negatively impact mortality, unlike many antiarrhythmic drugs. Further clinical studies, including the original SHIELD study,[16] showed that azimilide significantly reduces the number of appropriate shocks and antitachycardia pacing (ATP) episodes in patients with ICDs.[17] A further substudy of the SHIELD trial demonstrated a reduction in the number of hospital attendances in the azimilide arm.[5]

The aim of this study was to further evaluate in detail the efficacy and safety of a 75-mg dose of azimilide daily, for use in patients with ICDs, especially in regard to hospitalizations and interventions. The 75-mg dose was chosen because the original SHIELD study demonstrated no significant incremental benefit in primary study end points when using a 125-mg dose of azimilide. The methodology was therefore deliberately designed to be similar to the previous substudy of SHIELD,[5] so as to provide comparable data for regulatory bodies to evaluate the drug for this adjuvant indication. We present the results of the randomized control trial, SHIELD-2, which was prematurely discontinued due to withdrawal of funding by the study sponsor. The study was curtailed due to a business decision that was made solely by the sponsor, blinded to study results, and not due to any study conduct issue, safety signal, or apparent absence of efficacy of the study drug.

Methods

Study design

This study was a randomized, double-blind, multicenter, placebo-controlled, parallel-group trial. Patients were randomized to receive up to 12 months of placebo or 75 mg of oral azimilide, once daily. Patients were followed up for an additional 30 days after the 12-month intervention period, or after premature discontinuation of the study drug. On-treatment follow-up was due to be stopped 6 months after the last patient was enrolled, and the study was due to be stopped when the last patient had completed a 30-day posttreatment visit. This study was conducted in accordance with guidance detailed in the Declaration of Helsinki.

Study population

Patients had to be at least 18 years old, with an ICD and a left ventricular ejection fraction (LVEF) of ≤40%. If the patient's ICD had been recently implanted, randomization needed to occur within 60 days of ICD implant and there was a required, documented episode of sustained VT, VF, or cardiac arrest in the 42-day period before the ICD insertion. Patients with an ICD implanted more than 60 days before enrollment were included if they had an ICD-delivered shock triggered by confirmed VT or VF and randomization could occur within 180 days of receiving this shock. All ICDs were required to have arrhythmia-discriminating algorithms (eg, high rate or sudden onset or rate stability).

Key exclusion criteria were the following: (1) New York Heart Association (NYHA) class IV congestive heart failure or decompensated congestive heart failure at randomization; (2) VF qualifying for ICD implantation or for study inclusion occurring within 48 hours of a myocardial infarction; (3) a history of torsade de pointes; (4) an electrocardiogram with a QTc >460 milliseconds and a QRS ≤120 milliseconds during screening; (5) an electrocardiogram with a JTc >340 milliseconds and a QRS >120 milliseconds during screening; (6) abnormalities in serum creatinine (>2.5 mg/dL [221 μmol/L]), liver function tests, potassium, or magnesium; (7) an absolute neutrophil count <1000/μL before randomization; (8) use, at the time of enrollment, of class I or III antiarrhythmic drug, QT-prolonging drugs, or immunemodulating drugs; and (9) amiodarone administered orally within 60 days before randomization or intravenously within 14 days before randomization. Patients with a serum creatinine qualifying for enrollment but with some renal insufficiency did not require dose adjustment of study drug.

Outcome assessments

The primary composite outcome was the time to first unplanned cardiovascular (CV) hospitalization, CV emergency department (ED) visit, or CV death. Secondary outcomes were the following: (1) time to first all-cause shock and (2) time to the first outpatient visit resulting in a change in ICD programming or to medication, as a result of ICD findings. The clinical events committee, who were blinded to treatment allocation and independent of study staff, adjudicated all events.

End point measurement

Patients had scheduled evaluations at screening; at baseline; at weeks 2, 4, 6, 8, and 10; at months 3, 6, 9, and 12; and at the withdrawal visit. At scheduled visits, patients were asked if they were hospitalized or had a visit to the ED or outpatients department. Implantable cardioverter-defibrillators were interrogated at the scheduled 3-, 6-, and 9-month visits; at the end of the study or upon withdrawal; and in the event of a protocol-defined primary or secondary outcome being reached. The ICD programming parameters used in the study are detailed in Appendix A.

Treatment duration

The planned duration of exposure to study drug was up to a maximum of 12 months, with shorter periods due to withdrawal from the study (eg, due to death and serious adverse event with clear causation from drug) or potentially for patients randomized during the last 6 months of enrollment. The latter design feature of the study was due to study termination which was planned to occur when the target number of primary outcome events had been accumulated, originally projected to occur approximately 6 months after last-patient enrollment.

Statistical methods

Sample size determination. This study had an event-driven design with the primary end point of clinical events committee–confirmed incidence of unplanned CV hospitalizations, unplanned CV ED visits, or CV death (event). Because the primary treatment comparisons in this study were based on time-to-event methodology using the log-rank test, or equivalently, the Cox proportional hazards model, the approach used for calculating sample size requirements for this study was based on the sample size methodology outlined in Schoenfeld.[18] For the primary outcome of the time to first unplanned CV hospitalization, CV ED visit, or CV death, a total of 388 primary events were calculated to be necessary to provide at least 90% power to detect a hazard ratio (HR) of 0.72. This was based on the assumptions of the following: a 50% 1-year event rate in the placebo group, a 36% event rate in the azimilide group, and a treatment exposure of 12 months. Based on a 12% dropout rate, the study therefore intended to enroll approximately 890 patients (445 patients per study arm) and would continue enrollment until at least 330 patients were observed to have at least one confirmed primary event, with the projection that after this enrollment cutoff, at least 388 primary events would occur before study completion.

Planned efficacy analyses. Primary and secondary outcomes were planned to be analyzed using the log-rank test or Cox proportional hazards model. Under the intention-to-treat principle, all randomized patients were planned to be included in this analysis and a censoring mechanism applied to those patients without an event for 365 days of study follow-up. The time to first event (unplanned CV hospitalizations, unplanned CV ED visits, or CV death) was planned to be calculated as (event date − randomization date + 1). Patients without an event at the end of day 365 of study follow-up would have their efficacy measure censored at day 365. Patients who withdrew from the study before completing 365 days of study follow-up and without experiencing an event would have time-to-event measures censored on their withdrawal date. Patients without an event and who were lost to follow-up were planned to be censored on the day of last contact. Every effort was made to encourage patient follow-up and for investigators to keep patients under study observation, even if they have experienced their primary end point.

The Cox proportional hazards model, with treatment (azimilide or placebo) represented by an indicator variable as a covariate, was intended to be used to obtain an estimate of the HR for the azimilide 75-mg group to the placebo group, with a 95% CI. In addition, the Cox proportional hazards model with treatment (azimilide or placebo) represented by an indicator variable and potential baseline variables as covariates (diabetes, age [<65 and ≥65 years], sex, history of myocardial infarction, ejection fraction [<30% and 30%-40%], and NYHA class) were intended to be used to estimate the adjusted HRs of the azimilide 75-mg group to the placebo group. A log-rank test was intended to assess the statistical significance of observed treatment differences in the time-to-event distributions between placebo and the azimilide groups. Differences in recurrent events between azimilide and placebo groups were planned to be collected and analyzed using the Andersen-Gill method.

Considerations upon study curtailment. After study curtailment, because of the resultant low sample size, we were unable to use the time-to-event methodology in the planned efficacy analyses described above. We instead presented results as numerical and percentage data. Odds ratios were used as a description of relative risk as we did not have enough data at various time points in the study to reliably report hazards ratios. Tests of statistical significance were not performed due to the lower number of outcome events than initially projected by power calculations. The trial did not last long enough to collect meaningful tertiary event data; therefore, no analyses on recurrent events between azimilide and placebo groups were possible.

Safety analyses. Data on safety assessments were tabulated and, as per prespecified plans, were not analyzed by statistical methods.

The SHIELD-2 study was funded by Forest Laboratories, LLC (Allergan plc).

Results

The study population was predominantly an older population of white men (89.6%) with a mean ± SD age of 65.5 ± 9.6 years and a mean ± SD LVEF of 29% ± 7%. Most patients had existing, rather than newly implanted ICDs (89.6%). Patient demographics and comorbidities were comparable between treatment groups and are summarized in Table I.

When the sponsor decided to stop funding the study, only 27 (11.3%) of the 240 patients randomized had fully completed the study; that, 27 patients either died or completed 12 months of intervention plus an additional

Table I. Baseline demographic and clinical characteristics (randomized intention-to-treat population)

Characteristic	Placebo (n = 120)	Azimilide (n = 120)	Total (N = 240)
Age (y)*	65.5 ± 9.6	65.5 ± 11.1	65.5 ± 10.4
Sex, n (%)			
Male	107 (89.2)	108 (90.0)	215 (89.6)
Female	13 (10.8)	12 (10.0)	25 (10.4)
Race, n (%)			
White	107 (89.2)	104 (86.7)	211 (87.9)
Black	8 (6.7)	12 (10.0)	20 (8.3)
Other	4 (3.4)	2 (1.7)	6 (2.5)
Ethnicity, n (%)			
Hispanic	5 (4.3)	2 (1.7)	7 (2.9)
Type 2 diabetes, n (%)	40 (33.3)	45 (37.5)	85 (35.4)
BMI (kg/m^2)*	29.8 ± 6.5	30.4 ± 7.4	30.1 ± 6.9
Cardiomyopathy, n (%)	104 (86.7)	108 (90)	212 (88.3)
LVEF (%)*	28.5 ± 7.1	28.7 ± 7.4	28.6 ± 7.2
Etiology of cardiomyopathy, n (%)			
Ischemic	88 (73.3)	89 (74.2)	177 (73.8)
Nonischemic	16 (13.3)	19 (15.8)	35 (14.6)
NYHA class, n (%)			
I	26 (21.7)	16 (13.3)	42 (17.5)
II	56 (46.7)	77 (64.2)	133 (55.4)
III	27 (22.5)	22 (18.3)	49 (20.4)
IV	0 (0)	0 (0)	0 (0)
N/A	11 (9.2)	5 (4.2)	16 (6.7)
Qualifying episode, n (%)			
New ICD	10 (8.3)	14 (11.7)	24 (10.0)
Existing ICD	109 (90.8)	106 (88.3)	215 (89.6)
Concomitant medications			
ACE inhibitors	78 (65)	77 (64.2)	155 (64.6)
Aldosterone antagonists	54 (45)	48 (40)	102 (42.5)
Angiotensin II antagonists	29 (24.2)	26 (21.7)	55 (22.9)
β-Blockers	62 (51.7)	54 (45)	116 (48.3)
Class Ib antiarrhythmics	1 (0.8)	2 (1.7)	3 (1.3)
Class III antiarrhythmics	8 (6.7)	2 (1.7)	10 (4.2)

Abbreviations: *BMI*, Body mass index; *N/A*, not available; *ACE*, angiotensin-converting enzyme.
*Mean ± SD.

Table II. Details of study completion (n [%])

	Placebo (n = 120)	Azimilide (n = 120)	Total (N = 240)
Completed double-blind treatment	13 (10.8)	14 (11.7)	27 (11.3)
Did not complete study	107 (89.2)	106 (88.3)	213 (88.8)
Causes of noncompletion			
Adverse event	21 (17.5)	14 (11.7)	35 (14.6)
Withdrawal of funding by sponsor	79 (65.8)	76 (63.3)	155 (64.6)
Patient withdrew consent	2 (1.7)	6 (5.0)	8 (3.3)
Need to initiate therapy with excluded medication	1 (0.8)	5 (4.2)	6 (2.5)
Lost to follow-up	1 (0.8)	1 (0.8)	2 (0.8)
QTc/JTc prolongation	0	3 (2.5)	3 (1.3)
Protocol noncompliance	1 (0.8)	0	1 (0.4)
Investigator discretion	1 (0.8)	0	1 (0.4)
Other	1 (0.8)	1 (0.8)	2 (0.8)

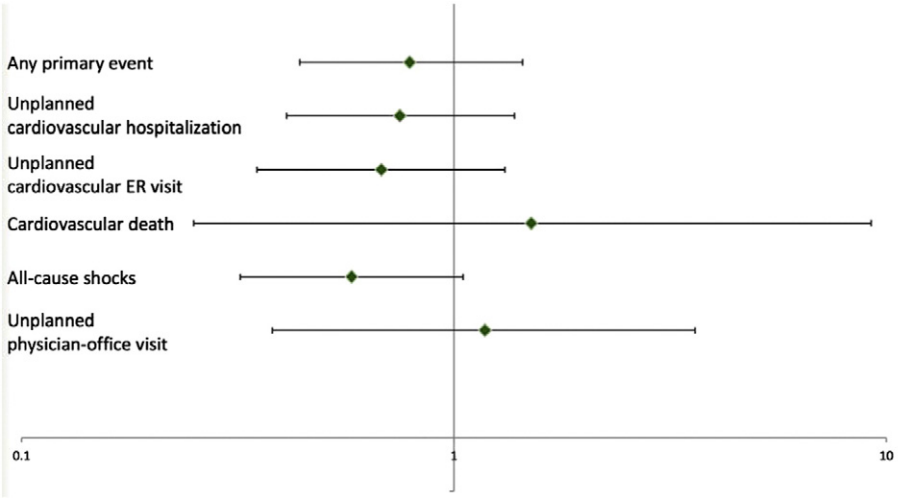
Patients with a QTc value >525 milliseconds (with a QRS ≤120 milliseconds) or a JTc value >400 milliseconds (with a QRS >120 milliseconds) were withdrawn from the study immediately. Patients with a QTc value >500 milliseconds (with a QRS ≤120 milliseconds) or a JTc value >380 milliseconds (with a QRS >120 milliseconds) could stay in the study, pending the results of electrolyte investigation and discussion between the investigator and medical monitor.

30 days of follow-up. The reasons why the remaining patients did not complete the study are outlined in Table II, the most common reason due to discontinuation of study funding (64.6%). The mean duration of exposure to azimilide and placebo was 144.7 vs 153.2 days, respectively.

Table III. Efficacy parameters for azimilide vs placebo (n [%])

Outcome	Placebo (n = 120)	Azimilide (n = 120)	Odds ratio (95% CI)
Patients with any of the primary events	31 (25.8)	26 (21.7)	0.79 (0.44-1.44)
Unplanned CV hospitalization	30 (25.0)	24 (20.0)	0.75 (0.41-1.38)
Unplanned ED visit	26 (21.7)	19 (15.8)	0.68 (0.35-1.31)
CV death	2 (1.7)	3 (2.5)	1.51 (0.25-9.22)
All-cause shocks	35 (29.2)	23 (19.2)	0.58 (0.32-1.05)
Unplanned outpatient visit that resulted in a change in therapy	6 (5.0)	7 (5.8)	1.18 (0.38-3.61)

Figure 1



Forest plot of the primary and secondary outcome measures. Points represent the odds ratio; bars represent ± 95% CI.

Table IV. Summary of adverse events by category (n [%])

	Placebo (n = 120)	Azimilide (n = 120)
Death	4 (3.3)	3 (2.5)
Significant adverse events	45 (37.5)	32 (26.7)
Adverse events leading to study discontinuation	21 (17.5)	16 (13.3)
Treatment-emergent adverse events	98 (81.7)	88 (73.3)

Primary and secondary outcomes

Azimilide, compared with placebo, numerically reduced the composite primary end point of the number of unplanned CV hospitalizations, or ED visits, or CV death. Azimilide also numerically reduced the secondary end point of all-cause shocks, but not the number of outpatient appointments resulting in a change in ICD programming or medication (Table III). The primary and secondary outcome measures are also summarized in a forest plot in Figure 1. Because of premature curtailment, the study is underpowered, likely contributing to relatively broad CIs.

Adverse events

Overall, fewer adverse events were observed in the azimilide group compared with the placebo group. A summary of the number of adverse events by category is shown in Table IV. Of note, there were no occurrences of neutropenia in the study population (absolute neutrophil count <1000 μ/L). There was one case of possible torsade de pointes in the azimilide group, which led to a successful ICD discharge. Twenty-one participants (17.5%) taking placebo and 16 (13.3%) participants taking azimilide discontinued their study medication due to an adverse event. The most

common adverse events leading to study discontinuation in the azimilide group were VT (n = 6; 5%), cardiac failure (n = 2; 1.7%), and prolonged QTc/JTc interval (n = 2; 1.7%). There were no trends in the data suggesting any newly described adverse events related to azimilide therapy. Data for the noteworthy treatment-emergent adverse events are shown in detail in Appendix B.

Discussion

The main finding of the SHIELD-2 study is that in the limited data set available, the experimental class III antiarrhythmic azimilide numerically reduced the primary composite outcome of the number of unplanned CV hospitalizations, or ED visits, or CV death, compared with placebo. This corroborates the finding of a previous substudy[5] of SHIELD, in which azimilide significantly reduced the number of CV ED visits and hospitalizations compared with the placebo arm.[5] This finding has beneficial implications for ICD patients in terms of preventing physical and psychological morbidity as well as economic benefits for the health service and the general population.

The SHIELD-2 study also demonstrated a numerical reduction in the number of all-cause shocks in the azimilide arm. The original SHIELD study[16] showed a statistically significant reduction in the combined primary end point of all-cause shocks plus ATP therapies in azimilide compared with placebo, but the reduction in all-cause shocks as a single end point did not reach statistical significance. However, reduction in appropriate shocks was statistically significant in SHIELD. This may be because azimilide has not been shown to be markedly effective at preventing supraventricular arrhythmias[19,20] and is therefore more likely to prevent appropriate, rather than inappropriate shocks. In addition, the number of shocks is not only determined by the number of arrhythmic events alone, but is also influenced by ICD programming. Differences in rate detection windows and the number and type of ATP trains between devices will influence the number of shocks fired regardless of the number or rate of any arrhythmias present.[16] Because a significant number of arrhythmias are slowed by the action of antiarrhythmic drugs and subsequently terminated by ATP, it may be most appropriate to measure the efficacy of adjuvant antiarrhythmic drugs in terms of their ability to decrease the number of shocks + ATP, rather than simply all-cause shocks.[17] The number of patients in our truncated study is too small to specifically evaluate the effect of azimilide on appropriate shocks, ATP, and inappropriate shocks; however, it is important to note that the ICD programming stipulated in the study protocol required the inclusion of a zone with ATP therapy and that site physicians were allowed to adapt contemporary programming approaches into patients' ICDs settings.

Taken as an individual outcome, there was no significant difference in the number of deaths between the azimilide or placebo arms in the SHIELD-2, SHIELD, or the pilot study of azimilide by Singer et al.[17] Although ICD shocks have previously been associated with an increased risk of mortality, our finding is not unexpected because ICD shocks may well be an adverse prognostic marker, rather than linked to mortality in a causal manner. Indeed, a systemic review of adjuvant therapies in ICD patients by Ha et al[21] found no evidence that reducing the number of ICD shocks significantly influences patient survival. Reassuringly, azimilide did not demonstrate an increase in mortality in either of the SHIELD studies or in a previous study of patients with recent myocardial infarction.[15]

It is also reassuring that we found a lower number of adverse events in the azimilide arm. Importantly, there were no reported incidences of neutropenia in the study. Azimilide has previously been associated with a rare incidence (0.5%) of severe, but reversible neutropenia.[15,16] Prior incidences of azimilide-associated neutropenia occurred in studies using higher doses of azimilide (100-125 mg).[16,17] This may be a dose-dependent effect not seen at the 75-mg dose used in SHIELD-2. Azimilide has previously been shown to have a 1% incidence of torsade de pointes in a combined review of previous trials[22] and in the SHIELD study. In SHIELD-2, there was one possible case of torsade de pointes in the azimilide arm, which led to a successful ICD discharge. The rate of torsade de pointes seen with azimilide is fairly low compared with other antiarrhythmic drugs currently used and is of less concern in patients who have an ICD and/or pacing support.

Conclusion

There is an unmet clinical need to find an adjuvant therapy for ICD patients, which can suppress arrhythmias capable of triggering appropriate and inappropriate ICD shocks. The SHIELD-2 trial was statistically underpowered due to early trial termination and did not meet its primary objective. Despite this limitation, azimilide, a class III antiarrhythmic drug, showed promise in this study as a safe and effective drug for potentially reducing the number of shocks, unplanned hospitalizations, and ED visits in ICD patients. These data support prior clinical trial findings with this drug including the SHIELD study.

Acknowledgements

The authors would like to acknowledge the important contributions of the members of the steering, cardiac events, and data safety and monitoring board committees, as well as the primary investigators and coordinators of the SHIELD-2 study. Names of the contributors are listed in Appendix C.

Disclosures

The SHIELD-2 study was funded by Forest Laboratories, LLC (now Allergan plc). Dr Robinson has no relevant disclosures. Dr Bharucha is an employee of Allergan plc. Drs Mahaffey, Dorian, and Kowey received consulting fees from Forest Research Institute.

Appendix A. ICD Programming for SHIELD-2 Enrollees

1. Patients eligible for the study had their ICD programmed as:
   a. ATP: was "on" at the time of randomization;
   b. was set for a minimum of 2 attempts of ATP in the lowest detection zone; and
   c. remained "on" during the study unless in the investigator's judgment, it was necessary to be turned "off," in which case the reason had to be documented.
2. The first ICD-delivered shock:
   a. would be delivered at no less than the lowest successful defibrillation energy at implantation or immediately before randomization.
3. VT detection rate:
   a. followed the parameters shown in the table, with any adaptation based on the investigator's judgment of the patient's clinical condition.

If the slowest VT rate is:	The floor should be:	The ceiling should be:
≤150 beats/min	10 beats/min less than the VT rate	200 beats/min
151-194 beats/min	20 beats/min less than the VT rate	200 beats/min
≥195 beats/min or cardiac arrest with no documented VT rate	Ventricular rate: 175 beats/min	200 beats/min

4. For dual-chamber devices, at least one VT discriminator had to be enabled.

Appendix B. Safety-reported events

Treatment-emergent adverse event	Placebo (n = 120), n (%)	Azimilide (n = 120), n (%)
VT	29 (24.2)	16 (13.3)
VF	8 (6.7)	7 (5.8)
Prolonged QTc/JTc interval	0	2 (1.7)
Atrial fibrillation	5 (4.2)	2 (1.7)
Cardiac failure, congestive	8 (6.7)	10 (8.3)
Cardiac failure	4 (3.3)	2 (1.7)
Peripheral edema	7 (5.8)	4 (3.3)
Dyspnea	12 (10.0)	9 (7.5)
Exertional dyspnea	1 (0.8)	3 (2.5)
Syncope	5 (4.2)	4 (3.3)
Dizziness	12 (10.0)	11 (9.2)
Chest discomfort	0	3 (2.5)
Diabetes mellitus, inadequate control	0	3 (2.5)
Renal failure, acute	3 (2.5)	3 (2.5)

Appendix C. Study leadership, investigators, and site staff

Steering Committee	Paul Dorian, Peter Kowey, John Camm, Kenneth Ellenbogen, Stefan Hohnloser, Brent Mitchell, Gerald Nacarelli, Craig Pratt, James Reiffel
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