SYNOPSIS

Outcomes Registry for Better Informed Treatment of Atrial Fibrillation (ORBIT-AF)

Atrial fibrillation (AF) is the most common sustained arrhythmia, affecting 1% of the US general population. Few data are available regarding the use and outcomes associated with stroke prevention therapies in real-world clinical practice. The ORBIT-AF registry will be a multicenter, prospective outpatient disease registry to identify “real world” treatment patterns of AF according to patient demographics, clinical factors, risk stratification, and geographic regions. In particular, attention will be focused on the utilization, effectiveness, health-related quality of life (HRQoL) and safety of antithrombotic therapy for stroke prophylaxis.

OBJECTIVES

The overall objective for the registry is to assess real-world patterns of care and outcomes in patients with AF. The primary objectives of the ORBIT-AF registry are to:

1. Characterize and describe the AF patient population as a whole, with emphasis on demographics, comorbidities, and risk profiles.
2. Define current practice patterns for the care of patients with AF, with a special emphasis on pharmacotherapy for stroke prophylaxis. *These data will include both provider decisions and patient preferences.*
3. Identify how patterns of care and subsequent outcomes vary by risk stratification (i.e., low-risk vs. high-risk patients).
4. Assess the compliance and burden associated with current anticoagulant prophylaxis as advocated by the ACC/AHA/ESC Guidelines for the Management of Patients with Atrial Fibrillation and the ACC/AHA/Physician Consortium 2008 Clinical Performance Measures for Adults with Nonvalvular Atrial Fibrillation or Atrial Flutter.
5. Assess the impact of rhythm management and emerging therapies on outcomes in AF.

OVERVIEW

The ORBIT-AF disease registry will aim to identify “real world” treatment patterns according to patient demographics, clinical factors, risk stratification, and geographic regions. Identified practice patterns will be compared to current guideline recommendations. In particular, attention will be focused on the utilization, effectiveness, HRQoL, and safety of antithrombotic therapy for stroke prophylaxis. The US ORBIT-AF registry will be a multicenter, outpatient AF registry with 2 year follow up.

Patients will be enrolled in clinic and followed prospectively on an outpatient basis with follow-up data collection at 6, 12, 18, and 24 months after enrollment. The registry will enroll 10,000 patients. Site recruitment and patient enrollment will be weighted based upon provider specialty and geographic heterogeneity.[1] The registry will be used to define demographics and current treatment patterns. Data capture will include demographics, cardiovascular risk factors, diagnosis, type of AF, treatment strategy (rate vs. rhythm), ablation history, cardioversions, antithrombotic therapy and monitoring (INRs), concomitant medications and doses, insurance and provider information, AF quality-of-life, anticoagulation treatment satisfaction, caregiver assistance, comorbidities, compliance, and outcomes. Pre-defined outcomes of interest will include: transient ischemic attack, non-CNS embolism, stroke, hospitalization for cardiovascular causes, revascularization procedures (e.g. PCI), catheter ablation of AF and other major adverse cardiovascular events (MACE), including myocardial infarction.

STUDY POPULATION

All patients with AF will be eligible for enrollment in ORBIT-AF, including both incident and prevalent cases of AF. All sites participating in ORBIT-AF will screen patients using a screening log. Patients who meet the inclusion criteria will be approached and educated about the registry. Patients who express interest will provide informed consent. **All** enrolled patients will be followed according to local, standard practice as clinically indicated. Follow-up data will be captured at 6 month intervals for 2 years (baseline, 6 months, 12 months, 18 months, and 24 months). Data capture / study visit windows will be 4 months in duration to maximize data capture during routine clinic appointments. Consecutive patient enrollment will be encouraged.

STATISTICAL METHODS

Sample Size

The goal of the ORBIT-AF 10,000 patient enrollment is to capture a large, representative population of patients with AF in the US. This cohort will be used to examine the epidemiology of AF (incidence/prevalence, demographics, risk profile, patient characteristics) and current treatment patterns, with a special emphasis on anticoagulation. Based upon recently completed clinical trials and observational data, we would anticipate an incident stroke rate of 1.5 to 2.2% in our unselected ORBIT-AF population.[2, 3] This would correspond to approximately 150 to 220 strokes in the first year of follow-up. This event rate will allow for the construction of models used to identify predictors of stroke with approximately 20 candidate variables. Alternatively, warfarin discontinuation rates range from 15 to 25% in the community. Assuming that greater than 50% of the cohort will be taking warfarin, and that the risk of discontinuation is linear, we anticipate more than 750 therapeutic discontinuations over the first year of the study. This event rate will allow for even more robust model construction in order to identify risk–factors for long-term warfarin intolerance. For nearly all of the pre-specified analyses, we will have greater than 90% power to detect a 5% difference in observed outcomes. These preliminary estimates are dependent upon the rates of warfarin use in the registry. The registry design is adaptive in nature, in which the sample size and inclusion criteria for sub-studies can be modified during the course of the study to ensure adequacy of the registry to answer certain research questions.

Measurement

Pre-defined outcomes of interest will include: transient ischemic attack, non-CNS embolism, stroke, hospitalization for cardiovascular causes, revascularization procedures (e.g. PCI), catheter ablation of AF and other major adverse cardiovascular events (MACE), including myocardial infarction.

Analysis

Extensive descriptive analyses will be conducted, focusing on quality of care for AF, including guideline-based utilization of warfarin in eligible patients, frequency of INR monitoring, and time in therapeutic range. Initial analyses will also focus on describing the current epidemiology of AF, including both incident and prevalent AF as well as risk factors for stroke. Once the epidemiology of AF, utilization of anticoagulation, and quality of care

have been described, attention will be focused on the relationship between patient characteristics (risk profile), treatment (stroke prophylaxis), adherence, and outcomes.

Univariate and multivariate approaches will be utilized to identify the factors that are associated with primary and secondary outcomes. Propensity score techniques will be used to create cohorts of patients with similar baseline factors. Outcomes, including MACE and secondary endpoints will be reported according to INR control, warfarin discontinuation rates, and bleeding rates.