Impact of Anticoagulation Therapy on the Cognitive Decline and Dementia in Patients with Non-Valvular Atrial Fibrillation (CAF Trial)

NCT # 03061006

Statistical Analysis Plan approved 12/18/2016

Statistical Analysis Plan

The study is a 1:1 randomized prospective trial. The subjects, physicians, and pharmacists will not be blinded to the assigned therapy.

The sample size of 120 subjects for the study will be potentially too small for meaningful data analysis, other than a description of trends and to assess the feasibility of recruitment, study subject retention, budget adherence and likelihood of obtaining the desired outcomes from the pre-specified power analysis, safety, and identification of adverse effects.

General baseline characteristics of the study participants for each of the aims will be described using means and standard deviations for continuous variables, and proportions for discrete and categorical variables. Variables to be described include age, sex, and standard cardiac risk factors. Baseline characteristics will be compared between randomization groups to provide validation of the successful balance of study variables and potential confounders between the groups by the study randomization procedure administered at the time of study enrollment.

For the primary outcomes, two-year incident dementia will be evaluated using the chi-square statistic. Odd ratios will be determined by Logistic regression. The chi-square statistic will also be utilized to evaluate whether there was a significant change in ADAS-cog11 (increase of >30%) and DAD (score <50% and/or a 30% decrease) scores. In addition, change scores for ADAS-cog11 and DAD (two-year survey score minus baseline survey score) will utilize the student's *t*-test. Comparisons of change scores between baseline and other time points (i.e., 6, 12, and 18 months) will also use the student's *t*-test to determine significant differences at these time points.

Subject clinical outcomes between the arms will be evaluated to determine differences for the other endpoints. As appropriate, the student's *t*-test and chi-square statistic will be utilized for continuous and discrete outcomes. Logistic regression will also to be utilized for binary outcomes to calculate odd ratios so that the odds of experiencing an event between arms can be determined. Kaplan-Meier survival estimate and log-rank test will be utilized to determine time to events stratified by arm. Regression analysis will also be utilized to identify clinical and procedural factors that are predictive of the outcomes. Analyses will be performed on an intention-to-treat basis.