Nutrition and Prostate Cancer
Protocol Number: 2000020868
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Amended Statistical Analysis Plan for the Terminated Study

July 9, 2020

1 STATISTICAL CONSIDERATIONS

Due to premature study termination (inability to enroll full sample size; indicated n and percent of target), the statistical analyses focused on the primary efficacy endpoint(s). Given the final sample size, it was deemed inappropriate to undertake full statistical analyses for the secondary outcomes. Instead, baseline, end of study and difference since baseline values were reported using the approach indicated in 1.1.1.

1.1.1 GENERAL APPROACH

Categorical data will be presented as counts and percentages. Continuous variables will be presented using mean with standard deviation and median with IQR. Graphical presentations will also be made as appropriate.

Two-tailed, Type I error of 0.05 and 95% Confidence intervals will be used in analyses.

The CAPRA score level (low/medium vs high) will be used to run a stratified primary outcome analysis. Other variables will be considered later in the SAP for use as covariates in subsequent analyses.
Normality of distributions of continuous variables will be assessed and transformations (e.g. log, square root) will be considered, as appropriate, to normalize not normal distributions. In the event that normality cannot be achieved, nonparametric tests will be employed.

1.1.2 ANALYSIS OF THE PRIMARY EFFICACY ENDPOINT(S)

The primary outcome is change in serum PSA. This is the difference between the PSA value at baseline and the value at the time of admission for surgery (prostatectomy).

'Baseline' is defined as the date that an eligible participant enrolls in the trial; randomization will occur within 3 days of baseline assessment. If no measurement is available in this 3-day window, the first measurement after randomization BUT before the date of treatment initiation and up to day 7, will be defined as baseline.

Repeated measures analysis or linear mixed models analysis will be used to assess whether the mean change in PSA from pre to post-treatment differs in the two groups. This can be achieved by measuring the (time by group) interaction term in a repeated measures ANOVA.

In secondary analysis of the primary outcome, the difference in PSA mean level at post-intervention/pre-surgery between the two groups will be assessed using ANCOVA and adjusting for pre-intervention/baseline values. This analytical approach will test whether the QC group has a higher PSA mean level following treatment. Adjusting for pre-treatment/baseline PSA level ensures that any post-treatment differences are a consequence of treatment, and not a result of some random effect from the pre-treatment differences between the groups. In addition, variation in the post-treatment means stemming from the variation introduced from the pre-treatment participant starting point.

Stratified analysis (low/medium vs. high CAPRA score) will also be carried out.

1.1.3 ANALYSIS OF THE SECONDARY ENDPOINT(S)

A number of secondary outcomes will be summarized and compared between the two trial arms.

A. Assessed pre and post-surgery

Continuous variables:

1. Prostate cancer tissue telomeric DNA length
2. Cell cycle progression score assessment of prostate cancer mRNA from prostate cancer tissue

Ordinal variables:

1. Gleason score compared to preoperative biopsies
2. Quality of life (FACT-P)