

Asprosin dynamics relating to serum Glucose levels under controlled alteration

Statistical Analysis Plan

Heidelberg, 31/05/2017

Statistical analysis and sample size calculation

The number of 10 subjects suffices for this pilot project. The aim of the study is to assess the asprosin effect during the hyperinsulinemic clamp test as well as its correlation to the rest of known regulatory hormones. Because of the low number of participants, only non-parametric evaluations, as well as descriptive and graphical statements, are used. Depending on the parameter, relating or non-relating non-parametric tests are performed. It is a pilot study in which no large statistical calculations are possible or, currently necessary. No biometrics will be involved in the evaluation. For evaluating differences in asprosin concentrations during different time points of the clamp, Wilcoxon test will be used. For correlations between asprosin concentration and blood glucose concentration, Kendall-tau test will be used. For ruling out confounders, linear regression analysis will be performed. For descriptive analysis, median and range will be given. As software, IBM SPSS 23.0 will be used.

The effect variables determined in this study, in particular asprosin kinetics under different glucose related metabolism conditions, can be further used for possible power analysis of larger future studies.