Brief Title: Tonsil Surgery in Recurrent or Chronic Tonsillitis

ClinicalTrials.gov NCT04657549

Date: 2nd May 2023

Correction of sample size calculation

The estimated sample size that we first reported on the ClinicalTrials.gov register was 285 patients. This figure turned out to be wrong due to a calculation error. We have now corrected this calculation error. We emphasize that we have not altered the key parameters of the sample size calculation that must be determined and registered before the trial begins. Our parameters of alfa error=0.05, beta error=0.1, standard deviation=standard deviation and noninferiority limit=10 on the Tonsillectomy Outcome Inventory Scale (TOI-14), that we found in our prior article [Laajala et al. doi: 10.1007/s00405-020-05832-z] to be the minimum change a patient could sense, have all been determined at the planning phase of our trial. In this correction we do not change these parameters. What we do here is to correct the calculation error that we made when the data on the linear scale was log‑transformed because of the nonnormality. The previously published wrong sample size calculations were based on a wrong standard deviation and on a wrong noninferiority limit on the log-scale resulting in a substantial error in the number of patients needed in each group. The correct sample size calculation is presented in the following paragraph.

Sample size

Our principal outcome is a disease-specific QoL questionnaire TOI-14 score measured at baseline and at 6 months of follow-up. According to Laajala et al. [doi: 10.1007/s00405-020-05832-z], a difference of 10 points is clinically significant. Further, the TOI-14 score was detected to be highly skewed to the right with excess zeroes at 6 months of follow-up, so we used a natural logarithmic transformation (log (1+TOI-14)) in sample size calculations. Our hypotheses were (A) both surgically treated groups (TE+TT combined) are superior (mean 1.6 vs 3.0, SD=1.0) compared to the follow-up (WW), and (B) TT is noninferior to TE (change score mean 3.1, SD=0.7 with non-inferiority limit=0.4). In both calculations α=0.05 and β=0.10 (power=0.90). According to this and taking into consideration the allocation ratio, (A) 7 and 28 patients in the WW and the combined TE+TT groups, respectively, and (B) 53 patients in the TE and the TT groups will be needed. Considering the allocation ratio WW:TE:TT = 1:2:2 and ensuring adequate sample size for each group, we decided to recruit 27 patients into the WW group and 53 in both the TE and the TT groups. Further assuming a drop-out rate of 10%, the sample size

for both surgically treated groups is 59 and for the follow-up group 30 patients (altogether 148). Sample size estimation was performed only for the principal outcome, and other comparisons are hypothesis generating only.”