Supplementary material (online only)

Estimation of the number of patients

The estimation of the number of patients was based on the procedure time (primary objective) of the conventional ESD technique, which is 90 minutes on average in Western series [5–8]. First experiences showed that waterjet-assisted ESD took up to 15 minutes less time. It was therefore assumed that the waterjet-assisted technique is 15% faster (= 13.5 minutes) than the conventional technique and that the variability is 25% of the procedure time of the conventional technique (= 22.5 minutes). These estimations result in at least 45 patients per group at a significance level of 5% and a power of 80%. Considering a drop-out rate of 10%, 50 cases per group must be recruited. This results in a total number of at least 100 patients. An additional consideration is that the incidence of early gastric carcinoma is up to five times higher in China than in Germany/Europe. To allow for this ratio, the estimated overall sample size of 100 was increased to 120 patients. Finally, 100 patients were enrolled in China and 20 in Germany. The verification of the hypothesis was performed by a 2-sided Student’s t test in the case of normally distributed procedure times or by Mann–Whitney test in the case of nonparametric outcome.