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Appendix 1

Results of Primary and Secondary Outcome Measures from a Linear Mixed Model Analysis for Repeated Measurements

In order to assess if missing outcome data during follow-up had affected our results, supplementary linear mixed model analyses for repeated measurements were performed under a “missing at random” assumption. As the mixed model analysis allows for analysis of unbalanced datasets without imputation, all available data were used in this analysis. Time at follow-up (as a categorical variable), choice of treatment and an interaction term between follow-up time and treatment group were included in the model as explanatory main fixed factors and patient age and the baseline value of the respective dependent variable as main fixed covariates. A random intercept was incorporated. The table shows the raw data together with the between-group differences at all follow-up points and the p value at 10-year follow-up as given by the mixed model analysis. Comparison of the results from the mixed model analysis to those from our main analysis by general linear model one-way ANCOVA (Table IV) shows that differences are only minor and insignificant at all follow-ups from 6 to 10 years.

Appendix Results of primary and secondary outcome measures from a linear mixed model analysis for repeated measurements.

	Mean (SD)		Between-group difference‡§	P value for the between-group difference#
	Primary tendon repair*†	Physiotherapy with optional secondary repair*†		
Constant score (points)				
Baseline	35.3 ± 13.2	38.4 ± 14.2		
6 months	65.6 ± 16.3	63.9 ± 20.2	2.7 (-3.6 to 9.0)	
1 year	77.7 ± 13.4	70.3 ± 19.1	8.3 (2.0 to 14.5)	
2 years	79.3 ± 13.6	77.7 ± 14.9	3.0 (-3.3 to 9.4)	
5 years	79.8 ± 15.0	74.2 ± 20.3	6.8 (0.4 to 13.1)	
10 years	80.5 ± 9.8	71.8 ± 17.8	9.8 (3.2 to 16.4)	0.03
ASES** score (points)				
Baseline	45.5 ± 14.5	48.2 ± 14.4		
6 months	85.3 ± 13.7	75.4 ± 20.2	10.7 (4.6 to 16.9)	
1 year	93.6 ± 12.5	83.6 ± 18.3	10.8 (4.6 to 17.0)	
2 years	93.1 ± 13.9	88.0 ± 14.9	6.4 (0.1 to 12.7)	
5 years	92.8 ± 13.3	85.4 ± 21.0	8.4 (2.1 to 14.7)	
10 years	94.0 ± 9.5	80.0 ± 20.2	15.0 (8.4 to 21.6)	<0.001
VAS pain (cm)				
Baseline	5.6 ± 2.0	5.3 ± 1.9		
6 months	1.1 ± 1.3	2.7 ± 2.2	1.6 (0.9 to 2.3)	
1 year	0.5 ± 1.2	1.6 ± 1.6	1.1 (0.5 to 1.8)	
2 years	0.7 ± 1.5	1.4 ± 1.4	0.8 (0.1 to 1.5)	
5 years	0.6 ± 1.4	1.6 ± 1.6	1.1 (0.4 to 1.7)	
10 years	0.6 ± 1.3	2.3 ± 2.4	1.8 (1.1 to 2.5)	<0.001
Pain-free abduction (deg)				
Baseline	73.7 ± 28.0	81.9 ± 29.8		
6 months	135.4 ± 41.7	135.4 ± 47.9	2.3 (-12.1 to 16.6)	
1 year	158.4 ± 33.7	143.8 ± 43.9	17.0 (2.6 to 31.4)	
2 years	161.7 ± 30.8	163.6 ± 32.6	1.1 (-13.3 to 15.5)	
5 years	167.3 ± 30.6	155.1 ± 41.2	15.1 (0.7 to 29.5)	
10 years	169.1 ± 23.8	151.7 ± 40.9	19.5 (4.5 to 34.4)	0.01
Pain-free flexion (deg)				
Baseline	86.8 ± 41.3	88.6 ± 32.1		
6 months	147.3 ± 34.5	146.6 ± 46.3	1.5 (-10.8 to 13.8)	
1 year	166.1 ± 27.5	155.6 ± 38.4	1.3 (-1.0 to 23.6)	
2 years	168.5 ± 26.1	170.5 ± 23.0	-0.3 (-12.6 to 12.0)	
5 years	170.6 ± 27.9	163.5 ± 35.4	8.6 (-3.8 to 20.9)	
10 years	175.8 ± 12.0	162.0 ± 35.5	15.0 (2.2 to 27.8)	0.02
Strength (kg)				
Baseline	7.5 ± 5.5	8.1 ± 5.8		
6 months	8.0 ± 4.6	10.6 ± 5.4	-2.5 (-4.3 to -0.8)	
1 year	11.1 ± 4.0	11.9 ± 5.1	-0.7 (-2.4 to 1.0)	
2 years	11.9 ± 4.3	12.8 ± 5.3	-0.8 (-2.5 to 0.9)	
5 years	12.1 ± 4.7	11.4 ± 5.4	0.9 (-0.8 to 2.6)	
10 years	11.7 ± 4.5	10.2 ± 5.6	1.7 (-0.03 to 3.5)	0.06

* The values are raw measurement data. In the analysis of the two groups, there were fifty-two patients in the primary tendon repair group and fifty-one patients in the physiotherapy with optional secondary repair group analyzed at baseline, fifty-one patients in each group analyzed at six months and one

year, fifty-one patients in the primary tendon repair group and fifty patients in the physiotherapy with optional secondary repair group analyzed at two and five years, and forty-eight patients in the primary tendon repair group and forty-three patients in the physiotherapy with optional secondary repair group analyzed at ten years.

† The values are given as the mean and the standard deviation.

‡ The values were adjusted for baseline measurements of the variable and for patient age; positive values indicate a better result for primary tendon repair.

§ The values are given as the mean, with the 95% confidence interval in parentheses.

A p value of <0.05 indicates a significant between-group difference at the ten year follow-up.

**This is the self-report section of the ASES score.

Appendix 2 Normalized (age and gender adjusted) Constant score based on the normalization data given by Katolik et al.³¹.

	Primary tendon repair*†	Physiotherapy with optional secondary repair*†
Normalized Constant score (points)		
Baseline	39.1 ± 14.5	42.8 ± 15.7
6 months	72.7 ± 17.8	71.1 ± 22.0
1 year	86.3 ± 15.3	78.6 ± 21.4
2 years	88.4 ± 15.3	87.1 ± 15.8
5 years	89.4 ± 17.1	84.1 ± 22.9
10 years	92.0 ± 12.1	82.3 ± 20.2

* The values were calculated by dividing the patients' raw scores by the age and gender adjusted normalization data given by Katolik et al³¹. There were fifty-two patients in the primary tendon repair group and fifty-one patients in the physiotherapy with optional secondary repair group at baseline, fifty-one patients in each group at six months and one year, fifty-one patients in the primary tendon repair group and fifty patients in the physiotherapy with optional secondary repair group at two and five years, and forty-eight patients in the primary tendon repair group and forty-three patients in the physiotherapy with optional secondary repair group at ten years.

† The values are given as the mean and the standard deviation.