Incision and Drainage or Tonsillectomy for Peritonsillar Abscess – The Patients' Perspective. A Randomized Clinical Trial

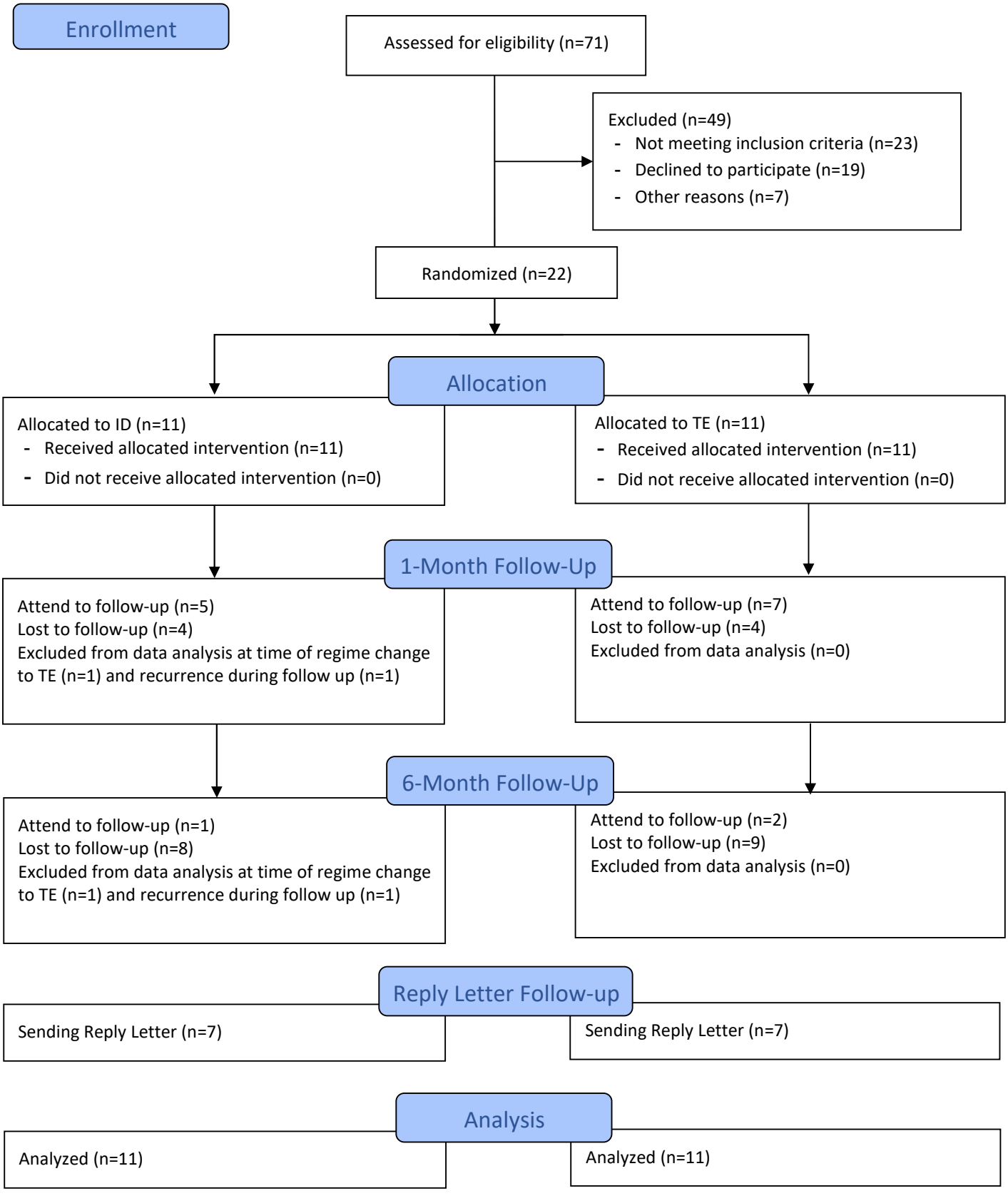
Short Running Title: The Patients' Perspective on PTA Treatment

Abbreviations

HRQoL	Health-Related Quality of Life
ID	incision and drainage in local anesthesia
NRS	numerical rating scale
PRO	Patient-Reported Outcome
PROMs	Patient-Reported Outcome Measures
PTA	peritonsillar abscess
SD	standard deviation
TE	tonsillectomy
VAS	visual analogue scale

Participant Flow

Fig. 1 Consolidated Standards of Reporting Trials Flow Diagram. ID, Incision and drainage in local anesthesia; TE, Tonsillectomy; n, Number



Baseline Characteristics

Table 1. Demographic Data and Baseline Characteristics

Demographic Data and Baseline Characteristics	**ID (n=11)**	**TE (n=11)**	**All (n=22)**
Sex			
Male, n (%)	5 (45.5)	7 (63.6)	12 (54.5)
Female, n (%)	6 (54.5)	4 (36.4)	10 (45.5)
Age (years)			
mean ± SD (median)	37.6 ± 13.6 (35.0)	34.7 ± 13.4 (30.0)	36.2 ± 13.6 (34.0)
Abscess location			
Right, n (%)	8 (72.7)	7 (63.6)	15 (68.2)
Left, n (%)	3 (27.3)	4 (36.4)	7 (31.8)
Acute Tonsillitis			
Last 12 months	3 (27,3)	2 (18,2)	5 (22,7)
Quantity 1, n (%)	*1 (9.1)*	*2 (18.2)*	*3 (13.6)*
Quantity 2, n (%)	*2 (18.2)*	*0 (0.0)*	*2 (9.1)*
Previous PTA			
Quantity ≥ 1, n (%)	1 (9.1)	2 (18.2)	3 (13.6)

ID, Incision and drainage in local anesthesia; n, Number; PTA, Peritonsillar abscess; SD, Standard deviation; TE, Tonsillectomy

Outcome Measures

Table 2. Primary and Secondary Outcome Measures

	Pre	Post	Day 1	Day 2	Day 3	Day 4	Day 5	Discharge	1 Month
Pain experience at rest (NRS)									
ID, median ± IQR [n[b]]	6.0 ± 2.8 [11]	4.0 ± 1.8 [11]	1.0 ± 0.8 [11]	0.0 ± 1.0 [10]	0.0 ± 0.0 [10]	0.0 ± 0.0 [5]	0.0 ± 0.0 [2]	0.0 ± 0.0 [10]	0.0 ± 0.0 [5]
TE, median ± IQR [n[b]]	4.0 ± 4.5 [10]	1.0 ± 3.5 [11]	1.0 ± 2.0 [11]	1.0 ± 2.0 [11]	1.0 ± 1.6 [10]	1.0 ± 1.0 [10]	1.3 ± 1.1 [6]	1.0 ± 1.4 [11]	0.0 ± 0.0 [7]
Pain experience during swallowing (NRS)									
ID, median ± IQR [n[b]]	8.0 ± 1.8 [11]	4.0 ± 1.8 [11]	2.0 ± 1.1 [11]	0.8 ± 1.0 [10]	0.0 ± 0.9 [10]	0.0 ± 0.3 [5]	0.0 ± 0.0 [2]	0.0 ± 0.4 [10]	0.0 ± 0.0 [5]
TE, median ± IQR [n[b]]	8.0 ± 1.8 [10]	1.0 ± 3.5 [11]	2.0 ± 2.3 [11]	2.0 ± 2.1 [11]	1.8 ± 1.4 [10]	1.0 ± 2.1 [10]	2.0 ± 1.9 [6]	2.0 ± 2.0 [11]	0.0 ± 0.0 [7]
Pain relief (VAS)									
ID, mean ± SD [n[b]]	n.a.	55.2 ± 25.4 [11]	76.4 ± 17.8 [11]	n.a.	n.a.	n.a.	n.a.	96.4 ± 5.5 [10]	n.a.
TE, mean ± SD [n[b]]	n.a.	81.4 ± 14.9 [11]	84.8 ± 12.3 [10]	n.a.	n.a.	n.a.	n.a.	83.2 ± 14.8 [10]	n.a.
Patient satisfaction (VAS)									
ID, mean ± SD [n[b]]	n.a.	83.6 ± 18.0 [11]	85.9 ± 10.7 [11]	n.a.	n.a.	n.a.	n.a.	95.9 ± 5.4 [10]	97.7 ± 2.1 [5]
TE, mean ± SD [n[b]]	n.a.	94.5 ± 6.2 [11]	96.0 ± 3.1 [10]	n.a.	n.a.	n.a.	n.a.	95.6 ± 7.0 [9]	98.5 ± 2.6 [7]

Trismus / mouth opening (cm)									
ID, mean ± SD [n[b]]	3.0 ± 0.9 [10]	n.a.	3.4 ± 0.8 [9]	4.1 ± 1.1 [9]	4.3 ± 0.9 [9]	4.2 ± 0.9 [4]	3.6 ± 0.1 [2]	4.4 ± 0.9 [9]	5.0 ± 0.4 [4]
TE, mean ± SD [n[b]]	2.8 ± 0.9 [11]	n.a.	3.7 ± 0.8 [11]	3.8 ± 0.7 [10]	4.3 ± 0.7 [7]	4.3 ± 0.8 [8]	5.0 ± 0.9 [5]	4.6 ± 0.9 [9]	4.8 ± 0.5 [7]
Body temperature (°C)									
ID, mean ± SD [n[b]]	37.2 ± 0.7 [10]	n.a.	36.6 ± 0.4 [11]	36.5 ± 0.4 [9]	36.5 ± 0.3 [10]	36.0 ± 0.8 [4]	36.6 [1][a]	36.4 ± 0.4 [8]	n.a.
TE, mean ± SD [n[b]]	37.4 ± 0.6 [10]	n.a.	36.5 ± 0.3 [10]	36.5 ± 0.2 [9]	36.6 ± 0.3 [9]	36.6 ± 0.3 [10]	36.5 ± 0.3 [5]	36.4 ± 0.3 [8]	n.a.
Inflammatory parameters									
CRP (mg/dl)									
ID, mean ± SD [n[b]]	11.35 ± 4.83 [11]	n.a.	n.a.	4.37 ± 2.03 [10]	n.a.	n.a.	n.a.	2.41 ± 1.45 [3]	n.a.
TE, mean ± SD [n[b]]	11.04 ± 5.31 [10]	n.a.	n.a.	5.79 ± 3.50 [9]	n.a.	n.a.	n.a.	1.40 ± 1.06 [5]	n.a.
Leukocytes (G/l)									
ID, mean ± SD [n[b]]	15.40 ± 3.43 [11]	n.a.	n.a.	7.24 ± 1.26 [10]	n.a.	n.a.	n.a.	6.09 ± 1.19 [3]	n.a.
TE, mean ± SD [n[b]]	13.21 ± 3.03 [10]	n.a.	n.a.	7.66 ± 3.17 [9]	n.a.	n.a.	n.a.	6.92 ± 1.87 [5]	n.a.
Additional blunt drainage procedures (ID only)									
procedures performed in % patients [n[b]]	n.a.	n.a.	100.0 [10]	60.0 [10]	30.0 [10]	20.0 [5]	0.0 [2]	n.a.	n.a.

rate of pus drainage, % [n[c]]	n.a.	n.a.	50.0 [10]	50.0 [6]	66.7 [3]	0.0 [1]	n.a.	n.a.	n.a.
Analgesia intake									
Basic analgesia									
ID, % [n[b]]	n.a.	n.a.	81.8 [11]	90.0 [10]	60.0 [10]	75.0 [4]	100.0 [2]	55.6 [9]	n.a.
TE, % [n[b]]	n.a.	n.a.	81.8 [11]	81.8 [11]	77.8 [9]	80.0 [10]	75.0 [4]	87.5 [8]	n.a.
On-demand analgesia									
ID, % [n[b]]	n.a.	n.a.	27.3 [11]	20.0 [10]	10.0 [10]	0.0 [4]	0.0 [2]	0.0 [9]	n.a.
TE, % [n[b]]	n.a.	n.a.	9.1 [11]	18.2 [11]	20.0 [10]	20.0 [10]	0.0 [5]	0.0 [8]	n.a.
HRQoL (15D)									
Total score									
ID, mean [n[b]]	0.85 [11]	n.a.	0.93 [11]	n.a.	n.a.	n.a.	n.a.	0.99 [10]	0.99 [5]
TE, mean [n[b]]	0.86 [11]	n.a.	0.92 [11]	n.a.	n.a.	n.a.	n.a.	0.94 [9]	0.96 [7]
Impairment in single dimensions									
ID, number of single dimensions impaired [n[b]]	13 [11]	n.a.	12 [11]	n.a.	n.a.	n.a.	n.a.	3 [10]	4 [5]
TE, number of single dimensions impaired [n[b]]	14 [11]	n.a.	13 [11]	n.a.	n.a.	n.a.	n.a.	11 [9]	8 [7]

Hospital stay [d]									
ID, % (n) of patients discharged	n.a.	0.0 (0)	0.0 (0)	0.0 (0)	50.0 (5)	30.0 (3)	20.0 (2)	100.0 (10)	n.a.
TE, % (n) of patients discharged	n.a.	0.0 (0)	0.0 (0)	9.1 (1)	0.0 (0)	27.3 (3)	63.6 (7)	100.0 (11)	n.a.

CRP, C-reactive protein; HRQoL, Health-related Quality of Life; ID, Incision and drainage in local anesthesia; IQR, Interquartile range; n.a., Not available; NRS, Numerical Rating Scale; VAS, Visual Analogue Scale; PTA, Peritonsillar abscess; SD, Standard deviation; TE, Tonsillectomy. [a] Averaging not possible; [n[b]] Number of cases under observation; [n[c]] number of cases receiving drainage procedure; (n) number of cases, [d] Recommendation for duration of hospital stay after ID and TE was intended to be equal for both gr

Adverse Events

There were no adverse events associated with this study (e.g. postoperative bleeding). At 1st post-intervention day, one patient of the ID-group (9.1%) changed regime to TE due to a treatment-refractory swelling. Another patient of the ID-group (9.1%) presented with an ipsilateral PTA-recurrence after achieving complete symptom relief before the 1-month follow-up, therefore received a bilateral TE. Furthermore, no recurrences (tonsillitis or PTAs) were documented.