Supplementary tables

CENTER	ELIGIBLE CASES, N	COMPLETE CASES, N	LIKELY NON-LESIONAL CASES, N
• Barcelona	1	1	1
• Belgrado	2	2	0
• Bielefeld	27	23	2
• Bonn	140	104	21
• Erlangen	22	17	11
• Florence	9	1	1
• Freiburg	14	14	2
• Gèneve[a]	50	0	0
• Istanbul	12	11	1
• KCHL	31	30	18
• Kuopio	39	31	18
• Leuven	4	4	4
• Linz	19	15	3
• Lissabon	4	3	0
• London (GOSH)	40	23	2
• Londen (NHNN)	41	40	20
• Lyon (adults)	56	41	16
• Lyon (pediatric)	5	4	2
• Maastricht[a]	8	0	0
• Madrid	3	3	2
• Marburg	6	6	0
• Milaan	6	3	0
• München	17	16	4
• Parijs (SAHC)	36	36	33
• Parijs (Rothschild)	19	19	3
• Pozilli	34	31	12
• Praag (adults)	21	19	9
• Praag (pediatric)	6	6	1
• Rome	4	4	4
• Utrecht	53	49	23
• Vogtareuth	20	2	1
• Wenen	4	3	1
• Zürich	11	10	2
• Zweden[a]	72	0	0
Total	836	571	217

[a] centers in which no data was retrieved because of no response (2 centers) and lack of possibility to reidentify the included patients from the original EEBB study (1 center)

Supplementary table 1: overview of numbers of enrolled subjects in each participating center

CHARACTERISTICS \ COHORT	COMPLETE DATA, INCLUDED (n=571)	INCOMPLETE DATA, EXCLUDED (n=265)	P-VALUE OF DIFFERENCE
age onset – yr, median (IQR)	12.00 (5.00-19.00)	7.00 (3.00-15.00)	0.02
age surgery – yr, median (IQR)	29.00 (19.00-40.00)	24.00 (13.00-37.75)	0.01
duration epilepsy – yr, median (IQR)	13.00 (7.00-23.00)	11.00 (6.00-22.00)	0.10
surgery location			0.10[a]
temporal – no. (%)	349 (61)	163 (62)	0.91
frontal – no. (%)	99 (17)	33 (12)	
parietal – no. (%)	16 (3)	16 (6)	
occipital – no. (%)	13 (2)	12 (5)	
multilobar – no. (%)	90 (16)	40 (15)	
surgery type			0.20
resective – no. (%)	502 (87.9)	160 (87.0)	
disconnective/hemispherotomy – no. (%)	65 (12.1)	14 (13.0)	
surgery outcome			
1 yr Engel 1 – no. (%)	342/561 (61.0%)	95/166 (57%)	0.39
2 yr Engel 1 – no. (%)	271/506 (53.6%)	131/243 (53.9%)	0.98
5 yr Engel 1 – no. (%)	170/331 (51.4%)	86/168 (51.2%)	0.97

[a] p-value for group (trend analysis)

Supplementary table 2: baseline characteristics included compared to excluded patients

MRI-LESIONAL COHORT / MRI-ABNORMALITY	N (%)
all	**354 (100)**
• clear focal epileptogenic lesion, but not further specified	118 (33.3)
• brain infarct	59 (16.7)
• primary brain tumor	39 (11.0)
• hippocampal sclerosis	33 (9.3)
• FCD	29 (8.2)
• traumatic lesion	27 (7.6)
• inflammatory lesion	17 (4.8)
• hemorrhage	11 (3.1)
• MCD (other than FCD)	11 (3.1)
• cavernoma	10 (2.8)

Supplementary table 3: structural cause based on MRI-lesional (excluded) patients

GENETICS		ANALYSIS					RESULTS	
	N	**individual gene**	**gene panel**	**WES/WGS**	**array**	**other**	**causative findings**	**VUS**
non-lesional	217	2	3	7	1	3	0/16	0
lesional	354	4	3	11	1	7	1/26	3[a]

[a] comprises of *SMN1, ARX, KCNT1* variants

Supplementary table 4: genetic testing in cohort of 571 patients

NON-LESIONAL COHORT / SEIZURE OUTCOME	ALL (%) N=217	TEMPORAL (%) N=150	EXTRATEMPORAL (%) N= 67
ENGEL I			
• 1 YR	47.4	58.1	22.4
• 2 YR	40.0	47.3	20.9
• 5 YR	36.3	41.0	16.4
ENGEL II-III			
• 1 YR	22.6	18.0	32.8
• 2 YR	24.9	22.0	31.3
• 5 YR	14.3	13.3	16.4
ENGEL IV			
• 1 YR	30.0	23.9	44.8
• 2 YR	35.1	30.7	47.8
• 5 YR	49.4	45.7	67.2

Supplementary table 5: surgery outcome (Engel class I-IV) in non-lesional temporal versus extratemporal cases

COHORT	N	1 YR (ENGEL I, %)	2 YR (ENGEL I, %)	5 YR (ENGEL I, %)
non-lesional	**217**	**47.4**	**40.0**	**36.3**
temporal	150	58.1	47.3	41.0
extratemporal	67	23.1	20.9	16.4
frontal	40	22.2	22.2	19.4
parietal	8	12.5	12.5	12.5
occipital	3	33.3	0	0
multilobar	12	41.7	41.7	25
MRI-lesional	**354**	**69.7**	**61.6**	**60.4**
temporal	199	67.5	59.0	57.8
extratemporal	155	72.5	66.4	62.2
frontal	59	70.2	48.9	45.8
parietal	8	50	50	50
occipital	10	60	60	40
multilobar	78	77.6	72.4	72.4

Supplementary table 6: surgery outcome likely non-lesional vs. patients with a structural epileptogenic cause on MRI: temporal *versus* extratemporal