

Table: Clinical characteristics of 282 infants who survived acute symptomatic neonatal seizures

	Total N=282	Epilepsy 37 (13%)	No Epilepsy 245 (87%)	p-value
<i>Clinical Characteristics</i>				
Gestational age at birth				
- <28 weeks	9 (3%)	2 (5%)	7 (3%)	0.13
- 28- <32 weeks	5 (2%)	2 (5%)	3 (1%)	
- 32- <37 weeks	30 (11%)	6 (16%)	24 (10%)	
- ≥37 weeks	238 (84%)	27 (73%)	211 (86%)	
Male	156 (55%)	21 (57%)	135 (55%)	0.9
5-minute Apgar score (median, IQR)	8 (5, 9)	8 (5, 9)	8 (5, 9)	1
<i>Neonatal Seizure and EEG Characteristics</i>				
Seizure etiology				
- Hypoxic-ischemic encephalopathy	124 (44%)	18 (49%)	106 (43%)	0.7
- Ischemic stroke	75 (27%)	8 (22%)	67 (27%)	
- Intracranial hemorrhage	47 (17%)	5 (14%)	42 (17%)	
- Other	36 (13%)	6 (16%)	30 (12%)	
Worst EEG background during the 1 st 24hrs at study center				
- Normal	23 (8%)	0	23 (9%)	0.003
- Mild/moderately abnormal	186 (66%)	20 (54%)	166 (68%)	
- Severely abnormal (burst suppression, depressed/undifferentiated, flat tracing)	47 (17%)	14 (38%)	33 (13%)	
- Electrographic status epilepticus at onset of recording	24 (9%)	3 (8%)	21 (9%)	
- Cannot assess	2 (1%)	0	2 (1%)	
EEG seizure frequency at the study center				
- None	51 (18%)	4 (11%)	47 (19%)	0.04
- Few (<7)	76 (27%)	10 (27%)	66 (27%)	
- Many isolated (≥7)	52 (19%)	4 (11%)	49 (20%)	
- Frequent recurrent	61 (22%)	12 (32%)	49 (20%)	
- Status epilepticus	40 (14%)	6 (16%)	34 (14%)	
- Documentation inadequate	1 (<1%)	1 (<1%)	0	
Days of EEG seizures (median, IQR)	1 (1, 2)	2 (1, 3)	1 (1, 2)	0.01
Incomplete response to initial loading dose of medication	174 (62%)	27 (73%)	147 (60%)	0.3

Received ≥ 2 ASM to treat neonatal seizures	150 (53%)	27 (73%)	123 (50%)	0.01
<i>Neonatal Clinical Course</i>				
Complex medical diagnosis (congenital heart disease, ECMO, congenital diaphragmatic hernia)	33 (12%)	4 (11%)	29 (12%)	0.9
Therapeutic hypothermia	84 (30%)	9 (24%)	75 (31%)	0.4
Abnormal neurologic exam at discharge	87 (31%)	24 (65%)	63 (26%)	<0.0005
3-month EEG characteristics for infants without hypsarrhythmia*	N=118	N=15	N=103	p-value
Normal EEG	38 (32%)	2 (15%)	36 (35%)	0.09
Abnormal EEG				
- Abnormal without epileptiform discharges	50 (42%)	6 (40%)	44 (43%)	0.2
- Focal epileptiform discharges	19 (16%)	4 (27%)	15 (15%)	
- Multifocal epileptiform discharges	11 (9%)	3 (20%)	8 (8%)	

*3-month EEG was available for 122 infants. Four infants already had hypsarrhythmia and infantile spasms at the time of this EEG (3-months corrected age).