

Supplementary Online Content

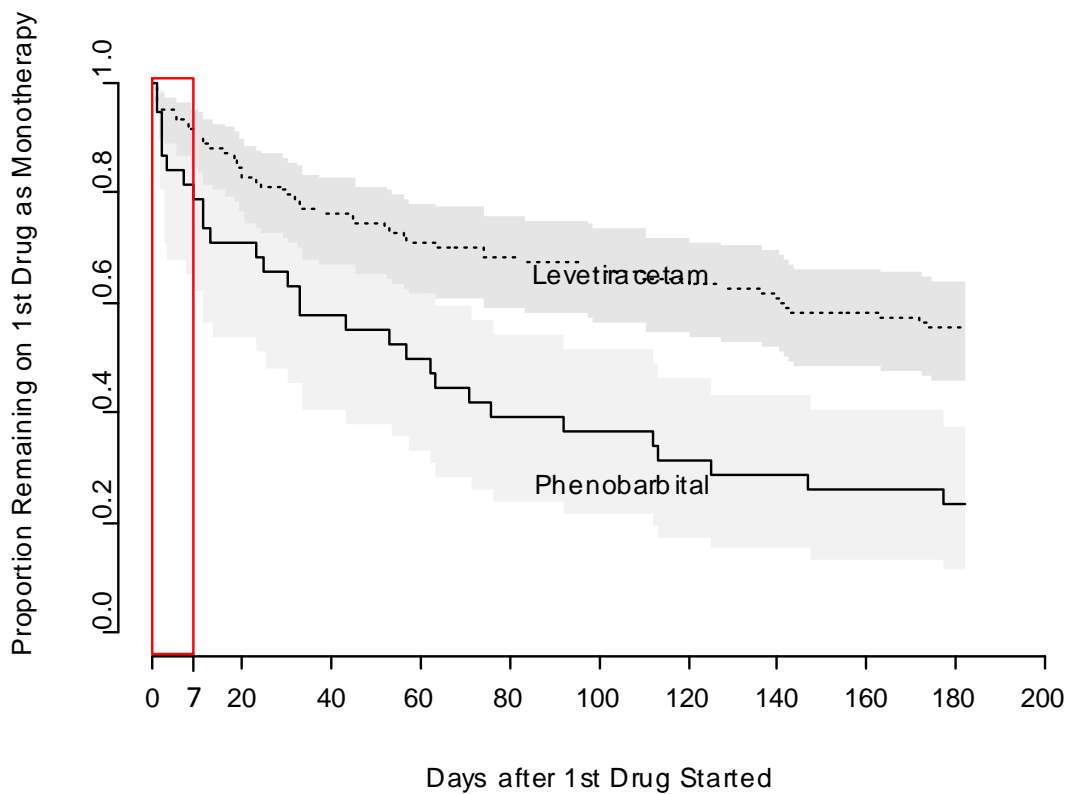
Grinspan ZM, Shellhaas RA, Coryell J, et al. Comparative effectiveness of levetiracetam vs phenobarbital for infantile epilepsy. *JAMA Pediatr*. Published online February 12, 2018. doi:10.1001/jamapediatrics.2017.5211

eFigure. Kaplan-Meier Curve for Remaining on Monotherapy

eTable 1. Multivariable Estimates of Freedom From Monotherapy Failure, Levetiracetam (LEV) vs Phenobarbital (PB), for Children Aged 1 Month to 1 Year With Nonsyndromic Epilepsy, Excluding 15 Early Failures

eTable 2. Multivariable Estimates of Freedom From Monotherapy Failure, Levetiracetam (LEV) vs Phenobarbital (PB), for Children Aged 1 Month to 1 Year With Nonsyndromic Epilepsy, Excluding 18 Infants Who Failed Monotherapy for Reasons Other Than the Perceived Efficacy of the Medication

This supplementary material has been provided by the authors to give readers additional information about their work.



eFigure. Kaplan-Meier Curve for Remaining on Monotherapy

Over six months, children who were prescribed phenobarbital were more likely to require a second AED than those prescribed levetiracetam (cox proportional hazard ratio 2.4 [95% confidence interval 1.5 – 3.7]). Grey bands, 95% confidence intervals (log-log). Red box, there were somewhat more early failures (within 7 days) in the phenobarbital group (7 of 38; 18%) than in the levetiracetam group (8 of 117; 7%), ($p = 0.07$ for comparison).

eTable 1. Multivariable Estimates of Freedom From Monotherapy Failure, Levetiracetam (LEV) vs Phenobarbital (PB), for Children Aged 1 Month to 1 Year With Nonsyndromic Epilepsy, Excluding 15[§] Early Failures

Statistical Model	Adjustment* for Covariates	Odds ratio [95% confidence interval] of a better outcome for LEV (vs. PB)	Number Needed to Treat [95% confidence interval]
GEE	No	3.2 [1.5 – 6.8]	4.7 [2.5 - 18]
	Yes	2.8 [1.1 – 7.1]	5.3 [2.4 - 55]
Weighted† GEE	No	4.8 [1.3 - 18]	3.2 [1.6 - 29]
	Yes	6.2 [2.0 – 20]	2.6 [1.6 – 8.9]
GEE, Generalized Estimating Equations, clustering by site.			
* Adjustment for age at onset, developmental delay, and time from seizure onset to first drug. Multiple imputation was used for two missing values of developmental delay.			
† Weighted using propensity scores, as described in the text.			
§ Excluded 7 early failures in the PB group, and 8 in the LEV group. Thus N = 31 for PB and N = 109 for LEV.			
Bold indicates our best estimate, following (Lee 2011).			

eTable 2. Multivariable Estimates of Freedom From Monotherapy Failure, Levetiracetam (LEV) vs Phenobarbital (PB), for Children Aged 1 Month to 1 Year With Nonsyndromic Epilepsy, Excluding 18[§] Infants Who Failed Monotherapy for Reasons Other Than the Perceived Efficacy of the Medication

Statistical Model	Adjustment* for Covariates	Odds ratio [95% confidence interval] of a better outcome for LEV (vs. PB)	Number Needed to Treat [95% confidence interval]
GEE	No	3.4 [1.6 – 7.1]	4.3 [2.4 - 13]
	Yes	2.6 [1.2 – 5.7]	5.9 [2.8 - 39]
Weighted† GEE	No	3.6 [1.2 - 11]	4.1 [1.9 - 46]
	Yes	3.9 [1.3 – 11]	3.8 [1.9 - 25]
GEE, Generalized Estimating Equations, clustering by site.			
* Adjustment for age at onset, developmental delay, and time from seizure onset to first drug. No missing values in this analysis.			
† Weighted using propensity scores, as described in the text.			
§ Excluded 8 in the PB group, and 10 in the LEV group. Thus N = 30 for PB and N = 107 for LEV.			
Bold indicates our best estimate, following (Lee 2011).			