Does prophylaxis impair GDQ, or can it help by reducing the number of fits? The value they quote for GDQ of children without subsequent fits is not a fair measure of the independent effect of anticonvulsants on GDQ for at least 2 reasons.

Firstly, as Hertz et al. comment the data must include the dropouts from both treated and untreated groups, to avoid the bias inherent in self selection. Secondly, as number of fits is such a strong determinant of ultimate GDQ it should be included in the comparison of treated and untreated groups. The interesting statistic is surely the F value for treatment versus no treatment of a multiple regression analysis of GDQ controlling for number of fits in addition to age, sex, social class, neurological status, and initial GDQ. In other words, is any change in GDQ associated with anticonvulsants explicable by the number of fits which occurred, or is it effect independent? I am unable to find this information in their paper.

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Drs Aldridge Smith and Wallace comment:

Dr Poulton requests the F value for treatment versus no treatment of a multiple regression analysis of GDQ at 24 months post initial fit (GDQ24) controlling for number of fits in addition to age, sex, social class, neurological status, and initial GDQ. The resultant F value (F = 0.00253/0.20664 × 71/1 = 0.895) is not significant. Inclusion of all children—that is those in receipt of continuous or discontinuous medication or continuously receiving no drug—also results in a non-significant F value (F = 0.00013/0.22374 × 106/1 = 0.062) as does consideration of only those children without further fits (F = 0.00051/0.20332 × 65/1 = 0.163).

Comparison of all those children without subsequent fits with those with subsequent fits controlling for medication in addition to age, sex, social class, neurological status, and initial GDQ shows the negative effect of subsequent fits on GDQ24 to be significant at the 1% level (F = 0.02108/0.22637 × 106/1 = 9.871). The effect of the number of subsequent fits—from 0 to 7—results in an increased F value (F = 0.02371/0.22374 × 106/1 = 11.233).

The effect of anticonvulsant medication on GDQ is not significant; however, the greater rise in GDQ over 24 months of the no drug group reported in Table 1 of our original paper together with the work of other authors is reflected in our conclusion: For children at high risk the present study supports continuous anticonvulsant medication until the child is past the vulnerable age. For those at low risk the present evidence suggests that treatment without the use of anticonvulsant drugs should be considered.

References