Does the MOSES Study Provide Sufficient Evidence for Eprosartan Against Nitrendipine?

To the Editor:

We read the article by Dr Schrader et al1 with great interest. Their conclusion, “MOSES does reveal protective effects of Eprosartan over Nitrendipine,” hinges entirely on the analysis of the primary end point, which includes recurrent events (cardiovascular and cerebrovascular events, and all-cause mortality) for the patients. Statistical analysis of recurrent events is not a problem in itself. However, as for recurrent events, it is important to investigate whether unexplained heterogeneity between patients is present. That is, some patients may be more prone (have a higher propensity) to experience cardiovascular and cerebrovascular events and/or death during follow-up than other patients. Such heterogeneity leads to overdispersion2 which will manifest itself as few patients experiencing more events and many patients experiencing fewer events than what is consistent with the Poisson distribution. It may be investigated whether overdispersion is in fact present,3,4 and if so, it may be taken into account when testing the null hypothesis. If overdispersion is present and not taken into account, the test will be anticonservative. That is, the actual significance level for the test is higher than the nominal level (α). In other words, the obtained P values are too small.

Because there is no mentioning of overdispersion anywhere in the article,2 we are left to assume that no effort has been made toward investigating whether it is in fact present or not. If it is present—which we strongly suspect—then the P values presented in Table 3 are anticonservative, and hence it has not been demonstrated that Eprosartan has significantly better protective effects than Nitrendipine.

Another point of concern is that the study apparently was open label. It would have strengthened the conclusion, had it been double-blind.

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Stroke. 2006;37:1357; originally published online April 27, 2006;
doi: 10.1161/01.STR.0000222992.66497.54
Stroke is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
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Print ISSN: 0039-2499. Online ISSN: 1524-4628

The online version of this article, along with updated information and services, is located on the
World Wide Web at:
http://stroke.ahajournals.org/content/37/6/1357

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