Letter to the Editor

TO THE EDITOR

A systematic review of the use of triptans in acute migraine

I have read with interest and learned a great deal from the systematic review of triptans in acute migraine by Gawel, Worthington and Maggisano.[1] However, I have some concern on the method used to derive the numbers needed to treat (NNT) from various estimates of therapeutic gains.

Numbers needed to treat are often used to summarise treatment effects in a clinically relevant way. It is, however, widely believed that NNTs from meta-analyses of risk differences are not reliable, since an NNT is specific to a control group event rate (e.g., placebo response in triptan trials). Smeeth and colleagues reviewed the use of NNTs to summarize treatment effect of statins for lowering cholesterol concentration in the prevention of coronary heart disease. While all treatments show very similar reductions in relative risk (i.e., a robust outcome measure of treatment effect), the associated NNTs derived from risk difference vary up to two-fold depending on the clinical settings. They show that the pooled NNTs from risk differences can be misleading because the baseline risk often varies appreciably between trials and suggest that if NNTs are to be calculated, they should be based on relative measures, and presented for a variety of stated baseline risk.[2]

The NNTs derived from the pooled therapeutic gains with triptans that were reported in the review may not display fluctuations beyond those to be expected in light of the above, but there are, however, two issues of concern. First, placebo treatment in triptan trials has been reported to produce headache responses ranging from 15% at half an hour to 48% at four hours.[3] Secondly, in any meta-analysis, clinical and statistical heterogeneity should be expected, investigated, and reported. Perhaps, the approach proposed by Smeeth et al[2] could be considered as an alternative for the reporting of NNTs derived from the review. For example, headache response rate ratios could be combined across trials with some indication of heterogeneity. The pooled response rate ratios could then be applied to a fixed range of placebo response to derive NNTs for different triptans. I suggest that only such proper estimates of treatment effect will allow extrapolation of the review's inferences to the clinical management of migraine.[4]

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