Article on Evaluating the Efficiency of Targeted Designs

In the article on evaluating the efficiency of targeted designs for randomized clinical trials in the October 15, 2004 issue of *Clinical Cancer Research,* the sample size formulas given in the Appendix provide the number of patients per arm of two-arm targeted and untargeted randomized clinical trials. This was not made clear and, in the discussion of trastuzumab and gefitinib development, the formulas were misused as total sample sizes per study.

The figures, formulas, and conclusions of the manuscript are unchanged, however, as the relative efficiency of the targeted design versus the standard design is unaffected by a factor of two in both numerator and denominator. The targeted randomized trial of 469 patients (234 per arm) that let to approval of trastuzumab for metastatic breast cancer provides 90% power for detecting a 13.5% improvement in the 1-year survival rate above a baseline of 67% with a two-sided 5% significance level. If benefit from the drug were limited to the 25% of patients who are assay positive, then the formula of the Appendix indicates that 4,025 patients per arm would be required for an untargeted design because the overall improvement in a 1-year survival rate would be only 3.375%. This is 17.2 times as many as for the targeted design actually conducted. If the assay-negative patients benefit half as much as the assay-positive patient, then 627 patients per arm would be required for an untargeted design, representing 2.7 times as many as for the targeted design. For gefitinib, the numbers provided in the publication are correct but represent patients per arm of two-arm clinical trials.

For investigators evaluating the relative efficiency of targeted and untargeted clinical trials they are considering, a website to perform the calculations is available at http://linus.nci.nih.gov/brb.

Simon R, Maitournam A. Evaluating the efficiency of targeted designs for randomized clinical trials. Clin Cancer Res 2004;10:6759–63.

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