No absolutes

Daniel Hackam[1] recently summarized the results of a primary prevention trial with lipid-lowering therapy.[2] However, these results suffer from a limitation of many reports of randomized controlled trials, in that the benefit is expressed only in terms of the relative risk reduction, which makes it difficult to estimate the total impact of the intervention. Relative risk reduction does not take into account primary and secondary end points, which are expressed by the absolute risk reduction.

A review of the data from the original paper[2] indicates that the absolute risk reduction for the primary end point of nonfatal myocardial infarction and fatal coronary artery disease was 1.1%, much more modest than the 36% relative risk reduction that was reported. The number needed to treat (NNT) derived from this absolute risk reduction is 90, which is comparable to the NNT for other prevention trials.[3]

Presenting absolute as well as relative risk reduction in reports of preventive drug therapy would give practitioners (and their patients) realistic estimates of the potential benefit of specific interventions.

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[The author responds:]

Anthony Kerrigan states that relative risk reduction does not take into account primary and secondary end points (which are expressed by absolute risk reduction) and that presenting absolute risk reductions would give practitioners more realistic estimates of the benefits of specific interventions. Although this viewpoint has been frequently expressed in letters to the editor and editorials, its premise is flawed.

Patients enrolled in clinical trials are frequently at lower risk of important adverse outcomes than the patients commonly encountered in actual practice, many of whom have risk-increasing comorbidities that tend to exclude them from such studies. Therefore, the absolute risk reduction reported in a pertinent clinical trial cannot readily be applied to such patients. The obvious solution is to calculate a new absolute risk reduction (and a new number needed to treat) based on the relative risk reduction reported in the clinical trial, as applied to the patient's estimated baseline, pretreatment risk.[1] Fortunately, the relative risk reductions derived from cardiovascular trials tend to be relatively impervious to the baseline risk of the patient. Therefore, as implied by my summary[2] of the Anglo-Scandinavian Cardiac Outcomes Trial (ASCOT),[3] it is entirely appropriate for practitioners to apply the relative, not the absolute, risk reduction from such clinical trials to the patients they see.

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Misdiagnosis of abuse

W. James King and colleagues[1] report that bruising was noted on examination for 46% of the children in their study of shaken baby syndrome in Canada. Such a high proportion warrants attention, but we must ensure that the diagnosis is correct.

A few years ago, a mother brought to my office her 3½-month-old child, who had ecchymosis of the left cheek and left pinna. The mother reported 3 separate episodes of bruising before the presenting episode. She suspected abuse by a babysitter, and the case was reported to the appropriate authorities. The child was investigated for bleeding disorders, but none were found. On the basis of the results of a pediatric examination arranged by social services, the child was removed from the mother's care. Subsequent medical care was provided by the family physician of the child's foster parent.

I next saw the child at 10 months of age during a day visit to the birth mother. The presenting problem at that time was described as recurrent impetigo of the left pinna. Infected eczema of the left pinna had been diagnosed on several occasions in the intervening period, and a dermatologist had confirmed the diagnosis of impetigo. This story sounded odd and led me to speculate that the child might have a herpes simplex infection. The dermatologist had taken a sample for culture, and a phone call to the local laboratory confirmed that the viral swab was growing herpes simplex I. In view of this information, I suspected that the episodes of ecchymosis of the left pinna seen in the first few months of life were actually the result of the original herpes infection.