Letters to the Editor

Soy Isoflavone Consumption Is Not Associated with Increased Risk of Advanced Prostate Cancer

To the Editors: One of the conclusions of the recent article by Kurahashi et al. (1) about the association between soy and isoflavone consumption and risk of prostate cancer is incorrect and misleading. In this cohort study, there was no evidence of a positive association between isoflavone consumption and risk of advanced prostate cancer or even a tendency for such an association. The statement in the results section that “genistein and daidzein increased the risk of advanced prostate cancer” is entirely based on very low point estimates (1.26 and 1.43, respectively) with very wide 95% confidence intervals (0.56-2.83 and 0.63-3.28). Hence, the conclusion in the abstract that “positive associations were seen between isoflavones and advanced prostate cancer” is not supported by the findings, and neither is the conclusion in the last paragraph of the discussion that “…isoflavone intake …tended to be associated with an increased risk of advanced prostate cancer.”

There may be some other errors in the article as well. The number of cases of advanced cancer in men over age 60 is exactly the same (53) in both Table 4 and Table 5. Because Table 5 excluded screen-detected cases, one assumes that there were no such cases in this age group. However, although the same cases and adjustment factors are used in both tables, the point estimates for relative risk differ substantially. The most likely explanation for this apparent anomaly is that screen-detected cases (n = 30) were entirely excluded from the data set, with a small change in quartile cutoffs as a consequence. It is also possible, given the small number of cases involved, that some of the dietary factors adjusted for might have been highly correlated, which would contribute to fluctuation in the risk estimates. The differences between Tables 4 and 5 thus illustrate that these results, which were relied on to reach the erroneous conclusion, are unstable and essentially uninformative.

The only significant positive association with risk of advanced prostate cancer was for consumption of miso soup in men of any age and in men over the age of 60. Once screen-detected tumors (all localized) were removed from the analysis, this association was no longer statistically significant by conventional criteria, again most likely due to the destabilizing effects of small changes in quartile cutoffs. In contrast to these results for advanced cancers, the conclusion that intake of genistein, daidzein, and all soy foods combined (highly interrelated factors) was inversely associated with risk of clinically localized cancer, particularly in men over the age of 60, was based much more on robust data. This inverse risk association represents the major finding of this study, but its importance is undercut by the above-mentioned misinterpretation. A possible positive association with advanced prostate cancer for miso soup is not consistent with the observed results for isoflavones and soy foods in general; however, potential explanations for this inconsistency are not discussed in the article.

This misrepresentation of the findings is especially problematic because it has already found its way to publications accessible to the lay public, including prostate cancer patients (2-4). Prostate cancer patients and men at risk for prostate cancer and even physicians now may have developed a fear that soy consumption is risky particularly in view of the fact that advanced prostate cancer is the stage of this malignancy that can be fatal. This type of information often begins to lead a life of its own resulting in myths that will continue to confuse patients and men at risk for prostate cancer as well as their physicians and researchers. We strongly suggest that this apparent error be corrected and publicized in a highly visible manner.

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