RE: Plasma Phospholipid Fatty Acids and Prostate Cancer Risk in the SELECT Trial

We would like to take this opportunity to comment on the recent article by Brasky et al. (1). This study is a case–control study, measuring only associations rather than cause and effect, and it uses inappropriate measures of dietary exposure to omega-3 fatty acids, which show very low consumption levels overall.

The abstract concludes by stating, "This study confirms previous reports of increased prostate cancer risk among men with high blood concentrations of LCω-3PUFA. The consistency of these findings suggests that these fatty acids are involved in prostate tumorigenesis. Recommendations to increase LCω-3PUFA intake should consider its potential risks" (1).

We would like to draw your readers' attention to the following matters of biological relevance in this study. First, the research used plasma phospholipid (PL) fatty acids as a measure of long-term intake of different fatty acids, but the literature regards plasma PL only as a measure of recent fat intakes (2). However, for the sake of our argument, let's assume that plasma PL long-chain omega-3 fatty acids from blood taken some years ago can be used to grade risk of a disease many years later. The Brasky et al. study (1) reported levels of long-chain omega-3s that are in a very narrow range as follows: the no cancer group had mean levels of 4.48%, the low-grade cancer group had mean values of 4.66%, and the high-grade cancer group had levels of 4.71%. By way of comparison, vegetarians who consume no long-chain omega-3 have plasma PL long-chain omega-3 levels of 4.1% (3), and subjects fed a fish-rich diet for 2 weeks had plasma PL levels of 21.5% (4).

Thus, the authors' conclusion that a difference of 0.23% in omega-3 levels between the no cancer group and the high-grade cancer group is one that represents a biologically meaningful difference in long-chain omega-3 dietary intakes is fanciful. The statistics may give a *P* value implying significance, but the actual difference is so small as to be biologically irrelevant. The literature shows that this very narrow range of values is within the measurement error for these fatty acids. In fact, the authors suggest that all subjects had similar low dietary intakes. Thus, we believe the conclusions drawn substantially overstate the biological relevance of the research.

The authors could have referred to a number of meta-analyses published recently, which have reported that intake of fish is associated with a reduction in deaths from prostate cancer, see for example, Szymanski et al. (5).

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